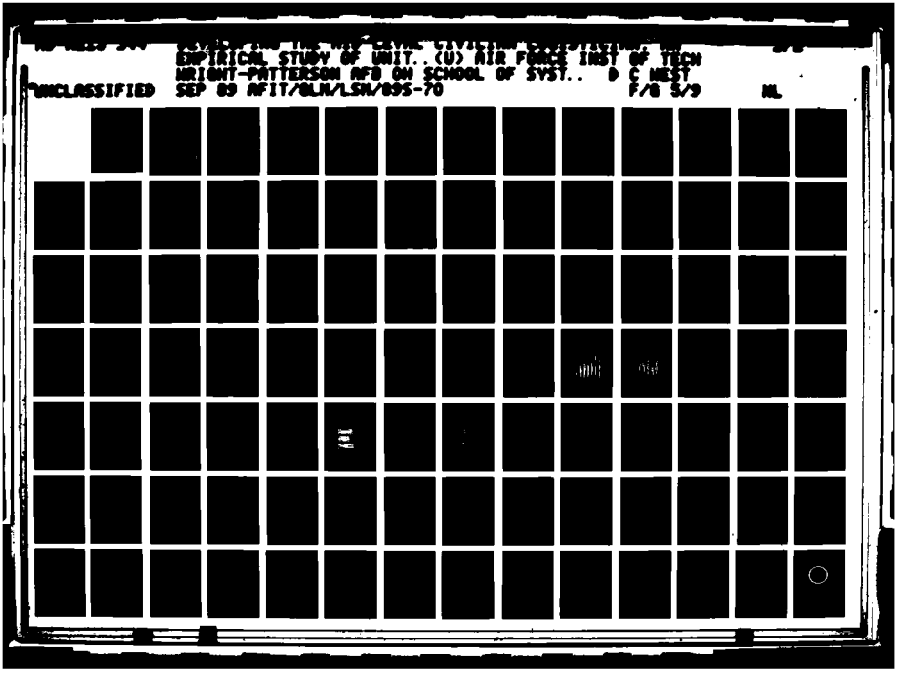
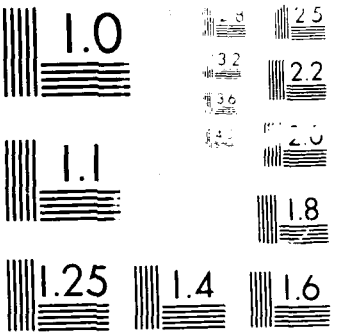

EMPIRICAL STUDY OF UNIT.. (U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. D C WEST
UNCLASSIFIED SEP 89 AFIT/GLM/LSM/89S-70 F/G 5/9 NL


1.0
1.1
1.25
1.4
1.6
1.8
2.2
2.5

DEVELOPING THE MID-LEVEL CIVILIAN LOGISTICIAN: AN EMPIRICAL STUDY OF UNITED STATES AIR FORCE GS-12 TO GM-13 PROFESSIONAL DEVELOPMENT

THESIS

David C. West, B.S.
Captain, USAF

AFIT/GLM/LSM/89S-70

DEPARTMENT OF THE AIR FORCE
AIR UNIVERSITY
AIR FORCE INSTITUTE OF TECHNOLOGY

Wright-Patterson Air Force Base, Ohio

2

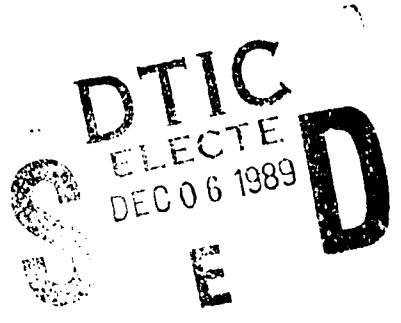
AFIT/GLM/LSM/89S-70

DEVELOPING THE MID-LEVEL CIVILIAN LOGISTICIAN: AN EMPIRICAL STUDY OF UNITED STATES AIR FORCE GS-12 TO GM-13 PROFESSIONAL DEVELOPMENT

THESIS

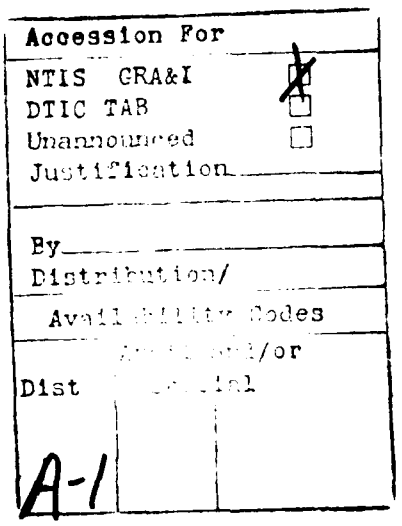
David C. West, B.S.
Captain, USAF

AFIT/GLM/LSM/89S-70



Approved for public release; distribution unlimited

The contents of the document are technically accurate, and no sensitive items, detrimental ideas, or deleterious information is contained therein. Furthermore, the views expressed in the document are those of the author and do not necessarily reflect the views of the School of Systems and Logistics, the Air University, the United States Air Force, or the Department of Defense.



AFIT/GLM/LSM/89S-70

DEVELOPING THE MID-LEVEL CIVILIAN LOGISTICIAN: AN EMPIRICAL STUDY OF UNITED STATES AIR FORCE GS-12 TO GM-13 PROFESSIONAL DEVELOPMENT

THESIS

Presented to the Faculty of the School of Systems and Logistics
of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

David C. West, B.S.
Captain, USAF

September 1989

Acknowledgements

This work was made possible by several very important persons. If it is good, it is due to their unselfishness in helping me. If not, it is due to my own failings.

I thank my advisor, Lt Col David E. Lloyd for his help and patience. This work is a tribute to his guidance and to his recently concluded career in the United States Air Force.

I also thank Ruth Schneider for her assistance in developing the scoring methodology used to classify professional development programs. My classmates, too numerous to list, were a constant help when I needed them most. My neighbors Fred and Nina Harris were a special help when I was mailing surveys, etc.

Finally, I thank my family. My wife Edeltraut was a steady help and I always felt we were working together. My family back west encouraged me with their calls, and my family at First Lutheran Church loved me unconditionally.

Dave West

Table of Contents

List of Figures

List of Tables

Abstract

This study continues five years of AFIT research on the senior Air Force Logistician. The purpose of this research was to use the previously developed AFIT Civilian Model, a weighted model of the background, characteristics, and qualities of the ideal senior Air Force civilian logistician, in order to determine the developmental needs of the population of GS-12 to GM-13 logisticians. The study also surveyed and classified existing professional development programs for civilian logisticians, and evaluated the appropriateness of these programs in meeting developmental needs for GS-12 to GM-13 logisticians.

A written survey evaluated these mid-level civilian logisticians against the AFIT Civilian Model's 100 point scale. Structured telephone interviews provided information about the range and variety of existing professional development programs. The research used non-parametric statistics to evaluate program appropriateness by determining the correlation between developmental needs and corresponding programs.

In general, mid-level civilian logisticians did not fit the "ideal" AFIT Civilian Model very well, with scores ranging from 12.9 to 82.2, and a mean score of 49.4. These

logisticians displayed weaknesses in six of the ten model categories. Individual professional development programs existed to facilitate development in all ten categories of the AFIT Civilian Model, but the overall program was not balanced to meet the weaknesses of the current mid-level logisticians.

This research should be potentially valuable to those interested in civilian logistician professional development. It provides ideas and analysis for professional development program managers and individual mid-level logisticians. The data and comments provide new insights into mid-level logistician development needs and programs.

DEVELOPING THE MID-LEVEL CIVILIAN LOGISTICIAN: AN EMPIRICAL STUDY OF UNITED STATES AIR FORCE GS-12 TO GM-13 PROFESSIONAL DEVELOPMENT

I. Introduction

General Issue

United States Air Force civilian logisticians are charged with integrating the pieces of a fragmented logistics puzzle into a logical whole. Mr. Lloyd K. Mosemann II, Deputy Assistant Secretary of the Air Force for Logistics, has urged logisticians to develop a broad systems perspective on logistics in order to meet these challenges (Mosemann:1). In 1980, the Air Staff created the Logistics Civilian Career Enhancement Program (LCCEP) in order to develop senior civilian logisticians with this systems perspective. According to Air Force Regulation (AFR) 40-1, Volume IV, the primary goals of the LCCEP are to help logisticians gain the experience and education necessary to assume senior positions (Department of the Air Force, LCCEP:2). Additional professional development programs managed at lower organizational levels may also contribute to these goals.

Problem Statement

Past Air Force Institute of Technology (AFIT) research has developed normative models for both military and civilian senior logisticians, and has applied these models to senior

Air Force populations. The term "senior" has been defined to include those military in the grades of O-6 and above and those civilians in the grades of GM-15 and above.

Because these populations were largely beyond professional development, important questions remained concerning the appropriateness of current professional development programs. Research was needed to focus on developing mid-level logisticians with systems perspectives. In 1987, Capt John Beals studied the population of Air Force mid-level military logisticians in the rank of Lieutenant Colonel. This study continued past AFIT research by studying the population of Air Force mid-level civilian logisticians in grades GS-12 to GM-13.

Background and Justification

This research built upon prior Air Force Institute of Technology (AFIT) research which proposed normative models of the ideal senior logistician. The current normative models were developed through continuing research over the past four years. Captain Alan Overbey developed a normative model for senior Air Force military logisticians in his 1985 thesis (Overbey:131). In her 1986 thesis, Captain Adelle Zavada modified Overbey's model, quantified the model, and tested the model using the population of Air Force Colonel logisticians (Zavada:30-32). In 1987, Captain John Beals compared the next generation senior military logistician t

the AFIT Military Model. Also in 1987, Mr. Donald Nancarrow began to develop the AFIT "Civilian" Model for senior Air Force civilian logisticians. Finally, in 1988, Captain Ralinda Gregor completed development, quantified, and tested the AFIT Civilian Model for senior Air Force civilian logisticians (Gregor:163).

The focus for this current research was suggested in Captain Gregor's thesis where she stated "the model will help Air Force leaders determine whether existing career development programs are successful in producing senior civilian logisticians who come close to the 'ideal'" (Gregor:10).

Research Objectives

The following research objectives were developed to determine the appropriateness of Air Force professional development programs in developing civilian logisticians with systems perspectives.

1. Determine how well mid-level civilian logisticians fit the AFIT Civilian Model.

2. Determine what types of professional development programs exist for civilian logisticians.

3. Determine whether existing professional development programs are appropriate in addressing mid-level civilian logistician weaknesses (areas of poor model fit).

Research Questions

The following investigative questions were employed to achieve the objectives of this research:

1. What particular weaknesses (areas of poor model fit) characterize mid-level logisticians?

2. What programs exist at Air Force, Major Command, and base levels to facilitate professional development?

3. Do existing programs appropriately address the mid-level logistician weaknesses (areas of poor model fit) identified in question one?

Scope and Limitations

The scope of this research was limited to mid-level senior Air Force civilian logisticians. This population includes individuals in the grades of GS-12 to GM-13 in logistics job series positions and general skills. These job series are defined as core, which reflects that at least 50 percent of their associated duties are logistics related (Department of the Air Force, LCCEP:3) or shared, which indicates that the job series is shared by logisticians and other career programs. Only those individuals eligible for LCCEP registration were included in this study. This population excludes GS/GM-14s in order to achieve a homogeneous population of mid-level logisticians.

The sample used to represent this population should contain at least a 50 percent return rate from the following

six groups of job series (3XX, 11XX, 16XX, 19XX, 20XX, and 21XX), and from each of the five Air Logistics Centers (ALCs) and the Air Force Logistics Command Headquarters (HQ AFLC).

The sample used to gather existing professional development programs should contain experts from a wide variety of organizations. It is possible the survey of a different group of experts could lead to different conclusions. Therefore, the experts were chosen to represent several AFLC organizations.

Definitions

The following key terms are defined:

1. Logistician: This is an individual whose profession or specialty is performing one or more of the prime management functions (planning, organizing, coordinating, directing, and controlling) in a logistics discipline or functional area or who is responsible for ensuring logistics processes are completed in support of an organization's activities (Nancarrow:304).

a. Senior Civilian Logistician: These are GM-15 and Senior Executive Service (SES) civilians serving in logistics job series. These job series are classified as either exclusive or potential by the LCCEP. All individuals serving in core job series positions (346, 1104, 1152, 1670, 2001, 2003, 2005, 2010, 2030, 2032, 2050, 2010, 2102, 2130,

2131, 2132, 2134, 2135, 2144, 2150, and 2151) and all LCCEP registrants serving in shared job series positions (301, 340, 343, 345, 1101, 1150, 1601, 1640, 1910, and 1960) are included (Gregor:10).

b. Mid-Level Civilian Logistician: These are GS-11 to GM-13 civilians serving in logistics job series. These job series are identical to those listed above for the senior civilian logistician. However, only those individuals in these job series, with one of the 22 logistics general skills codes (AP-, AQ-, AW-, CJ-, CR-, CS-, CY-, DC-, DD-, DF-, DT-, DU-, MA-, MM-, MT-, OP-, PA-, PB-, PP-, SE-, SU-, and TA-) are included.

2. Professional Development Program: This is a structured approach to developing civilian logisticians. This may include such activities as increasing geographic or functional mobility to provide broad experience, expanding training or education to provide necessary skills and knowledge, or other activities associated with improving career planning to meet Air Force needs.

Potential Contributions

The results of this research should be potentially valuable to individual logisticians, professional development program managers, and Air Force leaders who are interested in professional development. The detailed descriptions of the population of mid-level civilian logisticians and the

existing professional development programs could be useful to Air Force leaders. Another contribution of this research is the unbiased assessment of program effectiveness in meeting Air Force mid-level civilian logistician professional development needs.

Summary

This chapter described the necessity of continuing research in the area of mid-level civilian logistician professional development. The previously conducted research was summarized and the current research objectives and questions were introduced. Three potential contributions were suggested.

The remaining chapters describe this research on professional development for mid-level civilian logisticians. A review of the literature is presented in Chapter II. The methodology used in this research is presented in Chapter III. The results of this study are described and analyzed in Chapter IV. The conclusions of the research are drawn and recommendations for future research are given in Chapter V.

II. Literature Review

This review of the literature surveys completed research relevant to both professional development and the creation and testing of normative models for senior Air Force logisticians. The primary sources of information for this review were Defense Technical Information Center (DTIC) documents, Air Force Institute of Technology student theses, and logistics journal articles. Department of the Air Force documents concerning professional development in general and LCCEP in particular were also reviewed.

Professional Development Programs

Six DTIC documents were ordered to gain a broader perspective of professional development in the Department of Defense. These documents were not reviewed but are included in the bibliography for future reference purposes.

Professional Development Models

In the past four years, seven AFIT student theses developed and validated normative models for senior Air Force logisticians. This review employs a chronological organization in summarizing the research leading up to the two completed normative models. Reviewing the historical development of normative models for senior Air Force logisticians provides a background for further application of these models. This section briefly summarizes the seven

theses which led to the most current models. It then compares the two models to highlight significant similarities and differences.

Wilson

Dawn Wilson's 1985 research showed that the majority of senior civilian logisticians were generalists. She used the following criteria to distinguish generalists from specialists: (1) multi-functional experience, (2) multi-organizational experience, (3) formal logistics-related education, (4) professional military education/professional continuing education courses, 5) affiliation with professional logistics organizations, and (6) logistics certification (Wilson:28). Wilson's independent research results are similar to those of the following concurrent researcher.

Overbey

Captain Alan Overbey developed the initial normative model of the senior military logistician in 1985. That model was the foundation of the subsequent AFIT research which described the characteristics of the ideal senior Air Force logistician. He used interviews and a Delphi expert survey to develop this model which described "the essential qualities, characteristics and background requirements of a senior military logistician" (Overbey:122).

Overbey's model is characterized by its eight major subjective groupings: (1) qualities/characteristics, (2) academic education, (3) professional involvement, (4) professional continuing education, (5) professional military education, (6) advanced positions, (7) logistics experience, and (8) technical competency. Overbey's AFIT model was used as the initial structure for several subsequent researchers.

Zavada

Captain Adelle Zavada continued Overbey's research in 1986. She restructured Overbey's model by categorizing the eight existing groupings into three overall dimensions. She combined logistics experience and advanced positions under the heading of "experience". Academic education, professional continuing education and professional military education were grouped under the heading of "education and training". She combined professional involvement, technical competency and qualities/characteristics under the heading of "professional attributes".

Captain Zavada then quantified the Overbey's model. She accomplished this through a weighting survey which calculated values for each of the AFIT model dimensions, categories, and elements. She then surveyed all senior military logisticians using the quantified model to examine how they "fit" the ideal model. Her weighted model showing the ideal dimension composition was characterized by weights of 40 percent for

experience, 36 percent for professional attributes, and 24 percent for education and training. This model became known as the AFIT Military Model, and is shown in Figure 1.

Gorman

Captain Frank Gorman used the results of Overbey's research to develop a career development model for senior logisticians in 1986. His model is characterized by its three main groupings of career development goals: (1) experience (2) training and (3) education. Results of Gorman's research show that "experience was the most valuable component of career development" (Gorman:176).

Beals

Captain John Beals used the results of Zavada's research to investigate the degree to which the "next generation" of senior military logisticians fit the weighted AFIT model. His 1987 research showed an average model score of 65 for Air Force Lieutenant Colonel logisticians (Beals:72). His research also validated the weighted AFIT model by testing its applicability to a related population and showing it to be a useful standard for describing the ideal senior military logistician.

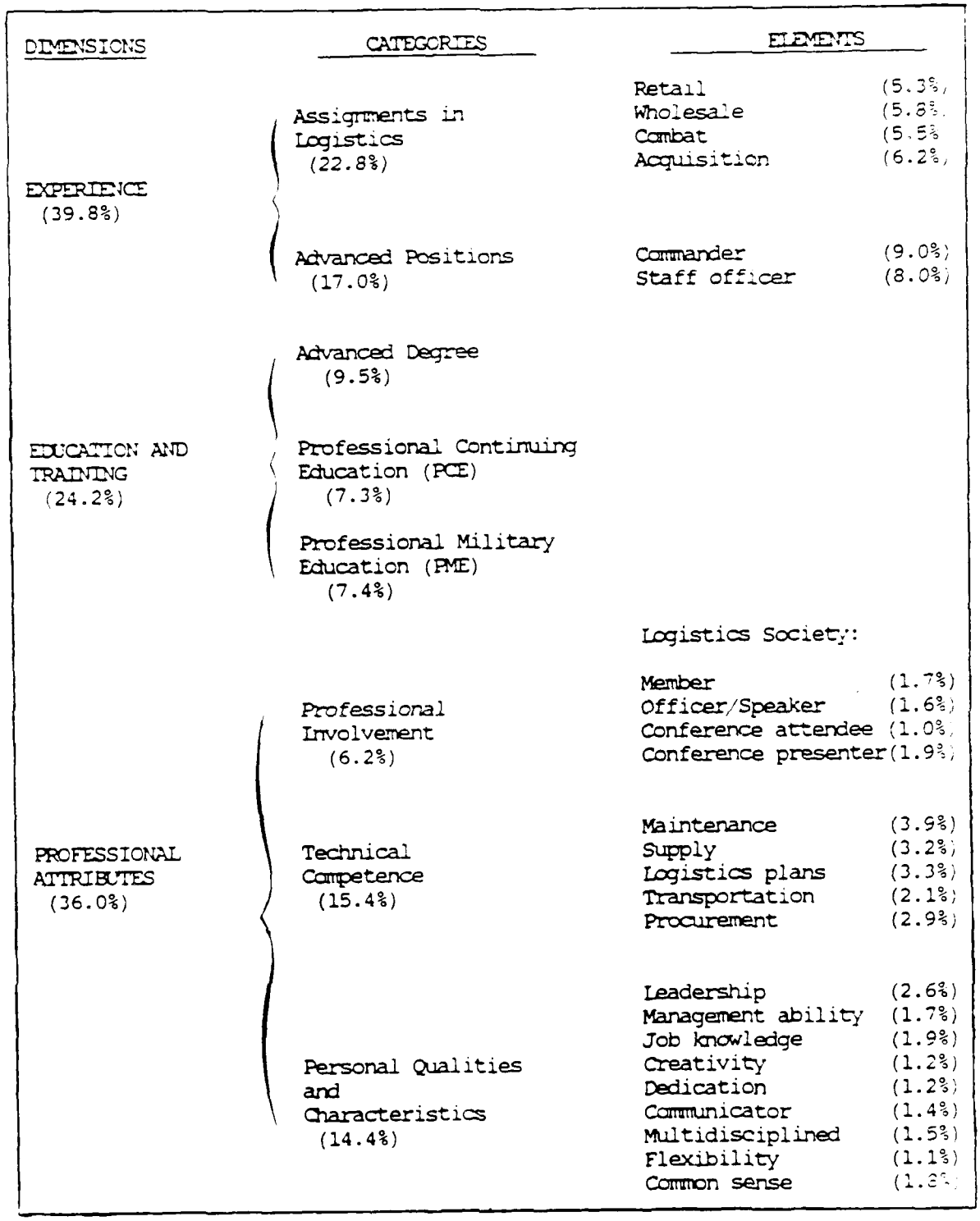


Figure 1. AFIT Military Model

Nancarrow

Donald Nancarrow's 1987 research investigated the applicability of the AFIT military model in describing senior civilian logisticians. He employed the existing normative model as developed by Overbey and refined by Zavada as his reference model. He then generated research protocols to determine how accurately the AFIT military model described the ideal senior civilian logistician. His ultimate goal was to develop a weighted model, similar to Zavada's, for evaluating senior civilian logisticians.

Although unsuccessful at producing a civilian model, his research concluded that the AFIT military model can be accurately applied to civilians at the level of its eight categories (Nancarrow:154).

Gregor

Captain Ralinda Gregor developed the AFIT Civilian Model of the ideal qualities, characteristics, and background for the senior Air Force civilian logistician in her 1988 research. She employed two rounds of Delphi surveys to arrive at a descriptive model. Using a weighting survey, she quantified Nancarrow's descriptive model. She then surveyed all GM-15s using the completed AFIT Civilian Model to evaluate how they compared to this ideal model. Her model showing the ideal dimension composition was characterized by weights of 40 percent for experience, 35 percent for

professional attributes, and 25 percent for education and training. This model is shown in Figure 2. The evaluation of senior civilian logisticians produced an average model score of 68 (Gregor:165,169).

Comparison of Models

Gregor's AFIT Civilian Model and Zavada's Military Model are equivalent in their ability to describe the ideal characteristics of senior logisticians. As the chronological development shows, the two models have more similarities than differences. Within the three major model dimensions of experience, professional attributes, and education, both researchers found experience to be the single most important dimension in describing senior military and civilian logisticians. Below the dimension level, the two models show differences in the number of categories, with the additions of a geographic mobility category in the experience dimension and a professional skills category in the professional attributes dimension for the AFIT Civilian Model.

Other differences between the two models exist at the subcategory or element level. Within the experience dimension, Nancarrow's and Gregor's research suggests that military logisticians should have more command experience and better developed operations and user perspectives than their civilian contemporaries (Nancarrow:156). Within the professional attributes dimension, civilians require greater

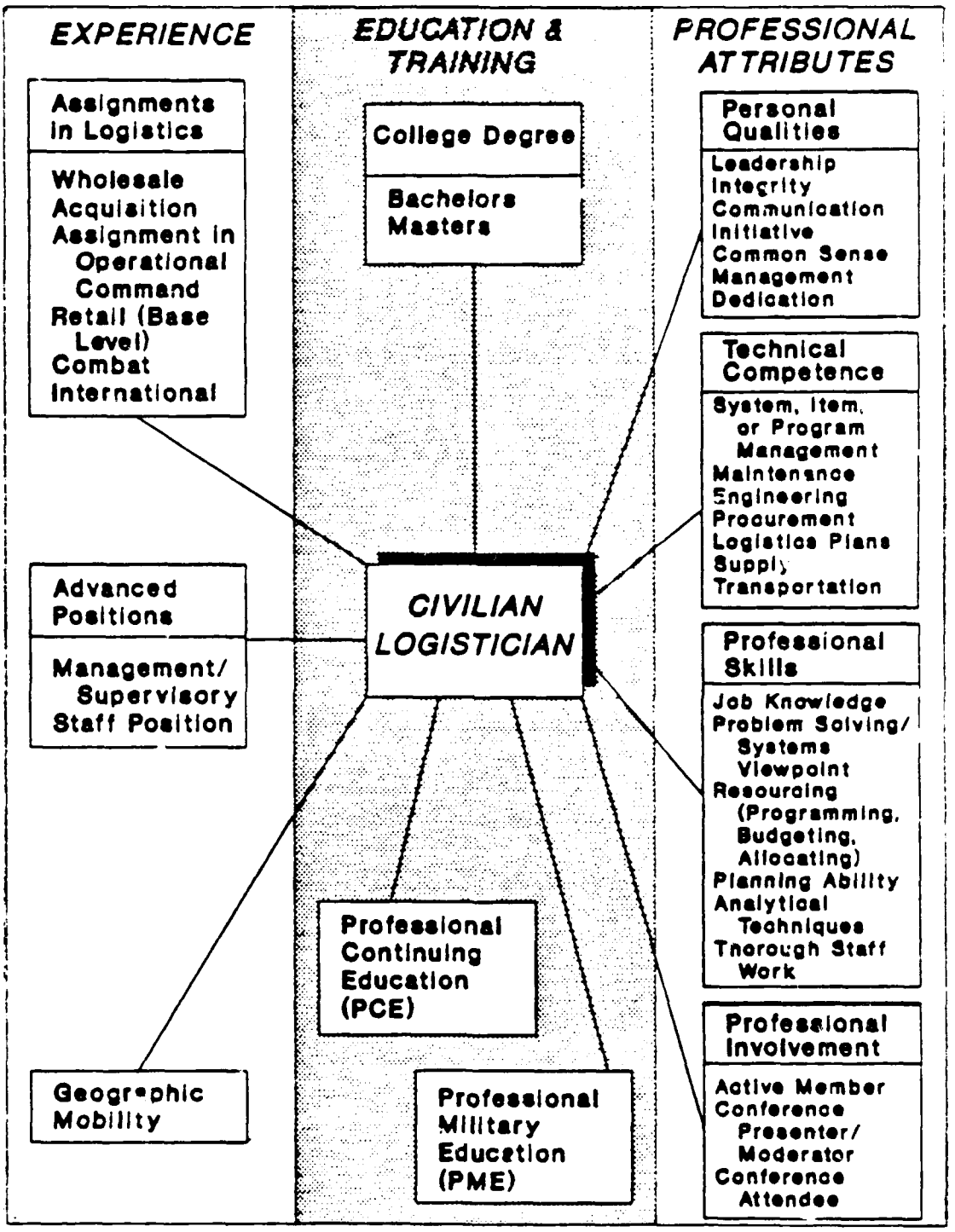


Figure 2. AFIT Civilian Model

technical competence within a specific logistics discipline than their military counterparts (Nancarrow:89). Finally, within the education dimension, research showed professional military education to be more valuable to military logisticians (Nancarrow:64).

Summary

This literature review surveyed completed research relevant to the development and validation of normative models for senior Air Force logisticians. The primary sources of information for this review were applicable Air Force Institute of Technology student theses. The review focused on the two normative models developed by Zavada and Gregor. This review summarized the research which led to these models and described their similarities and differences. In conclusion, this review showed that the two models were identical in many respects. The models exhibited differences at the element level in the areas of command experience, specialized technical competence, and professional military education.

III. Methodology

This chapter describes how this three phased research was conducted to meet the three research objectives. The first objective was to determine how well mid-level civilian logisticians fit the AFIT Civilian Model. The second objective was to determine what types of professional development programs exist for civilian logisticians. The third and last objective was to determine whether existing professional development programs are appropriate in addressing civilian logistician weaknesses.

Research Design

To meet the research objectives, three phases of research design were necessary. During phase one, the procedures necessary to conduct the literature review were developed. During the phase two, the procedure used to collect the necessary data was developed. This procedure required two separate surveys. The first survey instrument was developed by Gregor in 1988. It was called the "evaluation survey" because of its ability to evaluate the strengths and weaknesses of logisticians, based on the normative AFIT Civilian Model. The second survey was developed by this research in 1989. It was called the "classification survey" because it was used to classify existing professional development programs into the AFIT

Civilian Model categories. During phase three, the procedures necessary to analyze survey data and answer each of the research questions were developed. In the next section, each of these research phases will be described in more detail.

Phase One: Literature Review

During phase one, the applicable literature on professional development programs and normative models for senior Air Force logisticians was reviewed. Applicable Defense Technical Information Center (DTIC) Technical Reports, AFIT student theses, logistics journal articles, and Department of the Air Force documents were reviewed as potential sources for these topics.

The search of DTIC reports was conducted on 12 Jan 89 using the key words: career development, professional education, training programs, and executive managers. A total of 75 documents were found to match the key words. The abstracts of these 75 documents indicated that six of them should be included in the literature review.

A chronological review of current normative models for senior logisticians was conducted using AFIT student theses. A total of seven AFIT student theses were found on this subject. The study focused specific attention on Gregor's research since this study was a direct extension of her work.

The research reviewed logistics journal articles for the most current thought on the topic of professional development. The research also reviewed current Air Force guidance in Air Force Regulations and Pamphlets to provide an understanding of the system and structure of civilian logistician professional development in the USAF.

In summary, phase one resulted in a familiarity with the broad subject of executive development and with the specific subject of applying Gregor's model to study professional development for mid-level civilian logisticians.

Phase Two: Data Collection

During phase two, the procedures used to collect the necessary field data were developed. Two surveys were used to provide data to address the research questions. Therefore, this phase was divided into three parts, one for each of the research questions.

Part One: Model Fit Evaluation. The first research question asked what particular weaknesses (areas of poor model fit) characterize the mid-level civilian logisticians. This part of the data collection phase involved surveying the population of mid-level civilian logisticians, as defined in Chapter I, using the evaluation survey. The research used the following steps:

1. The ATLAS personnel data base was searched to determine the total population size for all GS-12s to GM-13s

in the applicable job series. These searches included subtotals by job series. The first search was conducted on 25 Jan 89 and identified 8246 individuals in the specified grades and job series. The second search was conducted on 25 Jul 89 and identified approximately 6400 individuals in the specified grades, job series, and general skills. This second search verified the accuracy of the first ATLAS search and ensured that only those individuals eligible for LCCEP participation, due to general skill restrictions, were included. The population was considered too large to perform a census. Therefore, a sample was selected for analysis. The required sample size was calculated using the following equation:

$$n = \frac{N(z^2)\ p(1-p)}{(N-1)\ (d^2) + (z^2)\ p(1-p)} \qquad (1)$$

where: n = sample size
N = population size (6400)
p = max sample size factor (.9)
d = desired tolerance (.05)
z = factor of assurance (1.96 for 95 +/- 5 percent)

The result of the equation was a computed sample size of n = 136.

2. The research conducted additional ATLAS searches to obtain names and addresses for the required sample size. The first search was conducted on 24 Apr 89 and identified 813

individual names and mailing addresses, grouped by zip code, in the specified grades and job series, with a social security number ending in the number four. The second search was conducted on 24 May 89 and identified 627 individual names, grouped by zip code, in the specified grades, job series, and general skills, with a social security number ending in the number four. This second search verified the accuracy of the first ATLAS search and ensured that only those individuals eligible for LCCEP participation, due to general skill restrictions, were included.

3. The researcher modified an existing survey instrument to provide data for the first investigative question. This instrument was similar to the one developed and used by Gregor in 1988 to survey GM-15 senior civilian logisticians, except that questions pertaining to model validation were eliminated (Gregor:307-318).

4. The evaluation survey was pretested using several local members of the population who were not members of the research sample. No significant changes were necessary. The Air Force Civilian Personnel Management Center (AFCPMC) approved the survey on 11 Apr 89 and assigned survey control number 89-70. The completed survey is included in Appendix A. Since the expected return rate was approximately 50 percent, and approximately 75 percent of the respondents had applicable general skills, the required number of surveys to be mailed was calculated using the following equation:

$$S = n/(r)(a) \quad (2)$$

where: S = survey size
n = sample size (137)
r = response rate (0.5)
a = applicability rate (0.75)

The result of the equation was a computed survey size of 365, which was then rounded up to 400 for ease of calculation. Four hundred individuals were randomly selected from the 913 entries on the 24 Apr 89 ATLAS mailing list. The research then mailed surveys to these 400 individuals with telephone follow up used to obtain the necessary sample size. The responses to this evaluation survey were used to answer the first research question.

Part Two: Program Classification. The second research question asked what programs exist to facilitate professional development. This part of the data collection phase involved surveying Headquarters Air Force Logistics Command (HQ AFLC) and Air Logistics Center (ALC) directorates, divisions, and civilian personnel staffing and training offices, using the classification survey. The research used the following steps:

1. It was determined that the target population for the classification survey should be composed of those organizations most knowledgeable about the existing professional development programs. These included HQ AFLC and ALC directorates, i.e. Material Management (MM),

Maintenance (MA), and Distribution (DS), divisions under these directorates, i.e. MMM, MAW, and DSM, civilian personnel staffing (DPCS), and civilian personnel training (DPCT). This population definition ensured that professional development programs would be surveyed from the perspective of four separate, knowledgeable organizations (directorate, division, DPCS, and DPCT), and would therefore lead to a comprehensive classification of existing programs.

2. The research determined that a representative sample from the target population must include each of the four organizations at HQ AFLC, and three of the four organizations at each of the ALCs. The result of this sample methodology was a sample size of 19 organizations. The military and civilian chiefs of the selected organizations were contacted and either personally responded to the survey questions or delegated the survey questions to another professional development manager within their organizations.

3. A structured telephone survey instrument was developed to provide data for the second investigative question. The survey was structured to determine what types of professional development programs were available to the population of mid-level civilian logisticians. Therefore, detailed questions were developed to determine what types of programs were available in the areas of experience, education and training, and professional attributes through centrally managed (USAF, MAJCOM, etc.) sources, local (base,

directorate, university, etc.) sources, and self-directed opportunities.

4. The telephone survey was pretested using several local members of the population who were not members of the research sample. No significant changes were necessary. The completed survey is included in Appendix C. Telephone surveys were then conducted until the entire sample of 19 organizations had been surveyed. The responses to the classification survey were used to answer the second research question.

Part Three: Program Appropriateness. The third and final research question asked whether existing professional development programs appropriately address mid-level logistician weaknesses (areas of poor model fit) identified by research question one. This part of the data collection phase involved comparing existing data from the evaluation and classification surveys, based on the ten categories of the AFIT Civilian Model. In order to provide a common denominator for comparing the two data sets, the research used the following steps:

1. The evaluation survey data was collected in the "ten category" format. Therefore, no further re-formatting was necessary.

2. The classification survey data was collected in a format which followed the AFIT Civilian Model "three dimension" format. It was therefore necessary to re-format

this data to meet the "ten category" format. The detailed re-formatting guidelines, developed in collaboration with an AFIT academic program director and an AFIT student who previously served as a personnel management and classification specialist, are included in Appendix E.

This final part of the data collection phase resulted in a common denominator for comparing evaluation and classification survey data. The results of the comparison were used to answer the third research question.

Phase Three: Data Analysis

The final phase of this research methodology involved analyzing the survey data collected in phase two and answering the research questions. Therefore, this phase was divided into three parts, one for each of the research questions.

Part One: Model Fit Evaluation. The first research question asked what particular weaknesses (areas of poor model fit) characterize the mid-level civilian logisticians. This part of the research involved developing the procedures for comparing the population of GS-12 to GM-13 logisticians to the AFIT Civilian Model. The data used to address this research question came from the evaluation survey. The procedures for modifying Statistical Package for the Social Sciences (SPSSx) application programs and coding the evaluation survey data are presented in the next sections.

1. SPSSx Application Program Modification. Existing SPSSx application programs were modified to analyze the data required by the first investigative question. These programs were similar to the ones developed and used by Gregor to analyze GM-15s in the same set of logistics job series. Three modifications were necessary: 1) simplify data entry by inserting spaces between data fields, 2) correct algorithms for "other skills" in the Personal Qualities and Professional Skills category score calculations due to existing errors which gave full credit for these categories every time a respondent included "other skill" responses, and 3) insert newly calculated mean scores for the seven Personal Qualities and six Professional Skills elements, based on the results of the GS-12 to GM-13 evaluation survey. The modified SPSSx application program is included in Appendix F.

2. Evaluation Survey Data Coding. The respondent's answers were coded into a data file for use with the modified SPSSx application program. In general, the coding guidelines used dichotomous scoring rules to award either full or no credit for each model element, based on respondent answers. The detailed coding guidelines for the evaluation survey were important to ensure consistency in scoring respondent answers and to ensure reproducability of results for future research. Table 1 shows how each evaluation survey question was coded into the SPSSx data file.

Table 1. Evaluation Survey Data Coding Guidelines

Question	Information Specification	Row	Column
NA	Survey identification number Three digit number from 001-400	1	1-3
NA	MAJCOM/Response validity One digit number (1-5,7-9,0)	1	5
(data from mail list)	1 - AFLC 2 - AFSC 3 - USAF 4 - Using Command 5 - Other Command 7 - Incorrect General Skill 8 - Correct General Skill, No response 9 - Correct General Skill, Incomplete response 0 - Correct General Skill, Not delivered		
NA	Current station Two digit number (01-05,07-14,99)	1	7-8
(data from mail list)	01 - Wright Patterson AFB 02 - Kelly AFB 03 - Tinker AFB 04 - Hill AFB 05 - McClellan AFB 07 - Robins AFB 08 - Hanscom AFB 09 - Los Angeles AFB 10 - USAF HQ 11 - APO NY 12 - APO SF 13 - Gunter AFB 14 - Scott AFB 99 - Other		
1	Current job series Four digit job series number (i.e. 0346)	1	10-13
2	Years of prior military service One digit number from 1-6	1	15
	1 - Response a. (<6) 2 - Response b. (6-10) 3 - Response c. (11-15) 4 - Response d. (16-20) 5 - Response e. (>21) 6 - Response f. (None)		
3	Assignments in logistics: acquisition log. One digit number from 0-1	1	17
	0 - No response a. 1 - Response a. (Yes) Response a. must also have appropriate response from question 4 to receive credit		

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
3	Assignments in logistics: international log. One digit number from 0-1 0 - No response b. 1 - Response b. (Yes) Response b. must also have appropriate response from question 5 to receive credit	1	19
3	Assignments in logistics: combat log. One digit number from 0-1 0 - No response c. 1 - Response c (Yes) Response c. must also have appropriate response from question 6 to receive credit	1	21
3	Assignments in logistics: retail log. One digit number from 0-1 0 - No response d. 1 - Response d. (Yes) Response d. must also have appropriate response from question 7 to receive credit	1	23
3	Assignments in logistics: wholesale log. One digit number from 0-1 0 - No response e. 1 - Response e. (Yes) Response e. must also have appropriate response from question 8 to receive credit	1	25
9	Assignments in logistics: operational log. One digit number from 0-1 0 - Response c. (No) 1 - Response a or b. (Yes) Must be equal to 1 to receive credit	1	27
10	Assignments in logistics: mgt/sup positions One digit number from 0-1 0 - Response e. (None) 1 - Response a, b, c, or d. (1, 2, 3, or 4) Must be equal to 1 to receive credit Assignments in logistics: staff positions	1	29

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
11	One digit number from 1-7 1 - Response a. (Branch) 2 - Response b. (Division) 3 - Response c. (Directorate) 4 - Response d. (MAJCOM HQ) 5 - Response e. (USAF, SAF HQ) 6 - Response f. (Other) 7 - Response g. (None) Record only highest numbered response. Must be greater than 1 and less than 7 to receive credit	1	31
12	Percent of mgt/sup/staff experience in log. Three digit number percentage Record actual response (i.e. 099) Must be greater than 060 to receive credit for responses to questions 10 and 11	1	33-35
13	Assignments in logistics: geog. mobility One digit number from 1-5 (# moves) 1 - Response a. (1) 4 - Response d. (3) 2 - Response b. (2) 5 - Response e. (None) 3 - Response c. (3) Must be greater than 1 and less than 5 to receive credit	1	37
14	Education and training: bachelors degree One digit number from 0-1 0 - Response b. (No) 1 - Response a. (Yes) Must be equal to 1 to receive credit	1	39
15	Education and training: masters degree One digit number from 0-1 0 - Response b. (No) 1 - Response a. (Yes) Must be equal to 1 to receive credit	1	41

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
16	Education and training: PCE One digit number from 1-4 1 - Response a. (Yes, AFIT) 2 - Response b. (Yes, other) 3 - Response c. (Yes, both) 4 - Response d. (No) Must be less than 4 to receive credit	1	43
17	Education and training: PME One digit number from 0-1 0 - Response a or g. (SOS or none) 1 - Response b and/or c, d, e, f. (ACSC, etc.) Must be equal to 1 to receive credit	1	45
18	Professional attributes: professional org. One digit number from 0-1 0 - Response a or e. (Member or not member) 1 - Response b. (Active member) Must be equal to 1 to receive credit	1	47
18	Professional attributes: professional org. One digit number from 0-1 0 - Response a or e. (Member or not member) 1 - Response c. (Conference attendee) Must be equal to 1 to receive credit	1	49
18	Professional attributes: professional org. One digit number from 0-1 0 - Response a or e. (Member or not member) 1 - Response d. (Presenter, moderator, etc.) Must be equal to 1 to receive credit	1	51

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
19	Technical competence: engineering One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	53
20	Technical competence: logistics plans One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	55
21	Technical competence: maintenance One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	57
22	Technical competence: procurement One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	59
23	Technical competence: supply One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	61
24	Technical competence: sys/item/program mgt. One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	63

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
25	Technical competence: transportation One digit number from 1-5 Record actual response (1 or 2 or 3 or 4 or 5) Must be greater than 2 to receive credit	1	65
26	Personal qualities: common sense Three digit number percentage Record actual response (i.e. 025) Must be greater than 17 to receive credit	2	5-7
26	Personal qualities: communication Three digit number percentage Record actual response (i.e. 025) Must be greater than 14 to receive credit	2	9-11
26	Personal qualities: dedication Three digit number percentage Record actual response (i.e. 025) Must be greater than 14 to receive credit	2	13-15
26	Personal qualities: initiative Three digit number percentage Record actual response (i.e. 025) Must be greater than 14 to receive credit	2	17-19
26	Personal qualities: integrity Three digit number percentage Record actual response (i.e. 025) Must be greater than 16 to receive credit	2	21-23

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
26	Personal qualities: leadership Three digit number percentage Record actual response (i.e. 025) Must be greater than 14 to receive credit	2	25-27
26	Personal qualities: management Three digit number percentage Record actual response (i.e. 025) Must be greater than 13 to receive credit	2	29-31
26	Personal qualities: other 1 Three digit number percentage Record actual response (i.e. 025) Response receives one point credit if category score is less than or equal to 10.5	2	33-35
27	Professional skills: analytical techniques Three digit number percentage Record actual response (i.e. 025) Must be greater than 15 to receive credit	2	37-39
27	Professional skills: job knowledge Three digit number percentage Record actual response (i.e. 025) Must be greater than 23 to receive credit	2	41-43
27	Professional skills: planning ability Three digit number percentage Record actual response (i.e. 025) Must be greater than 18 to receive credit	2	45-47

Table 1. Evaluation Survey Data Coding Guidelines, continued

Question	Information Specification	Row	Column
27	Professional skills: problem solving Three digit number percentage Record actual response (i.e. 025) Must be greater than 19 to receive credit	2	49-51
27	Professional skills: resourcing ability Three digit number percentage Record actual response (i.e. 025) Must be greater than 13 to receive credit	2	53-55
27	Professional skills: thorough staff work Three digit number percentage Record actual response (i.e. 025) Must be greater than 13 to receive credit	2	57-59
27	Professional skills: other 1 Three digit number percentage Record actual response (i.e. 025) Response receives one point credit if category score is less than or equal to 7.5	2	61-63
27	Professional skills: other 2 Three digit number percentage Record actual response (i.e. 025) Response not used	2	65-67

The individual evaluation survey responses were coded using these scoring guidelines. The individual response scores were then added together to form the overall model score, which was used to evaluate how well mid-level civilian

logisticians fit the AFIT Civilian Model and answer research question one.

Part Two: Program Classification. The second research question asked what programs exist to facilitate professional development. This part of the research involved developing the procedures for and classifying existing programs, as determined by the classification survey, into AFIT Civilian Model categories. The existing programs were classified into appropriate AFIT Civilian Model categories as follows. Each survey response could be classified as facilitating professional development in one or more model categories. For instance, a response which stated "We use the LCCEP career broadening assignments program" was classified into the categories of assignments in logistics, advanced positions, geographic mobility, and technical competence. In this way, the classification survey responses were classified using the AFIT Civilian Model structure. The classification survey data is contained in Appendix D. The completed classification is included in Appendix E, and a summary table is shown in Table 15. The product of part two of the data analysis methodology was a quantified listing of existing professional development programs, classified by AFIT Civilian Model category.

Part Three: Program Appropriateness. The third and final research question asked whether existing professional development programs appropriately address the mid-level

logistician weaknesses (areas of poor model fit) identified by research question one. This part of the research involved developing the procedures for and matching areas of poor model fit to corresponding professional development programs. The data used to accomplish this research came from both the evaluation and classification surveys. The research determined that non-parametric statistical analysis would be necessary to determine the correlation between the number of existing professional development programs in a particular category, as determined in part two above, and the mid-level logistician weaknesses in the each corresponding category, as determined in part one above. The completed Spearman Rank Sum Correlation test of program appropriateness is included in the last section of Chapter IV.

The product of part three of the data analysis methodology was a correlation coefficient which indicated the appropriateness of professional development program emphasis in addressing logistician weaknesses.

Summary

This chapter outlined how the research design was developed to address all of the research objectives. The methodology included a review of the literature, a data collection plan, and the appropriate data analyses that were needed to resolve the research problem.

IV. Findings and Analysis

Introduction

This chapter describes the results obtained from the three parts of this research. During the first part, a written "evaluation" survey was administered. The self-reported information was then used to compute model scores for each of the GS-12 to GM-13 logisticians who responded. This process was used to determine how well mid-level civilian logisticians fit the AFIT Civilian Model. During the second part, a structured telephone "classification" survey was conducted to determine what types of professional development programs existed for mid-level civilian logisticians. In the third part, the findings from the first two parts were compared to determine whether existing programs were appropriate in addressing areas where mid-level logisticians do not fit the AFIT Civilian Model.

Evaluation Survey

The purpose of the evaluation survey was to determine how well the population of GS-12 to GM-13 logisticians fit the AFIT Civilian Model. The survey used multiple choice questions to establish whether the respondents possessed the model dimensions of experience, and education and training. For the model dimension of professional attributes, the survey used multiple choice questions to determine technical

competence and professional involvement, and open ended questions to determine personal qualities and professional skills. The evaluation survey is included in Appendix A.

Population Representation. The research examined survey responses to determine whether the respondents were representative of the study population. Of the 400 total surveys mailed, the research sent 111 to individuals with incorrect general skills codes. This situation was created by initially including all individuals currently holding positions with applicable job series. Later analysis indicated that only those individuals holding positions with both an applicable job series and an applicable general skills code should be included in the study population. Eleven surveys were returned for incorrect addresses. Of the 278 surveys sent to individuals with applicable grades, job series, general skills, and correct addresses, 172 were completed and returned. The resulting response rate was 61.9 percent.

To determine if the responses were representative of the study population, response rates for HQ AFLC and the various Air Logistics Centers (ALCs) were examined. The results are shown in Figure 3. Representation of the various job series groupings was also examined. The results are shown in Figure 4. With the exception of the 1900 job series group, the sample appears to be representative. The actual sample size of 172 exceeds the computed minimum sample size of 136

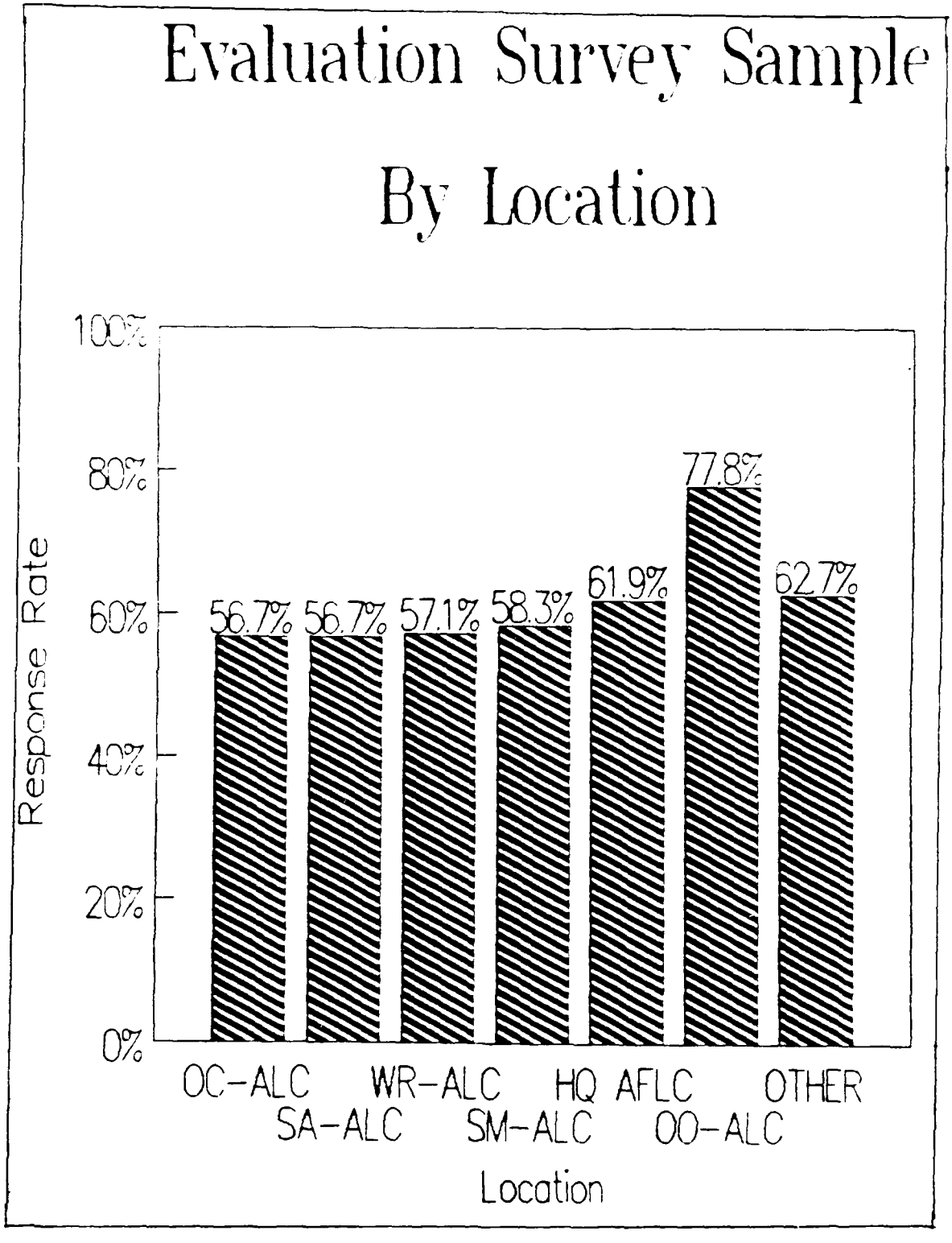


Figure 3. Evaluation Survey Sample by Location

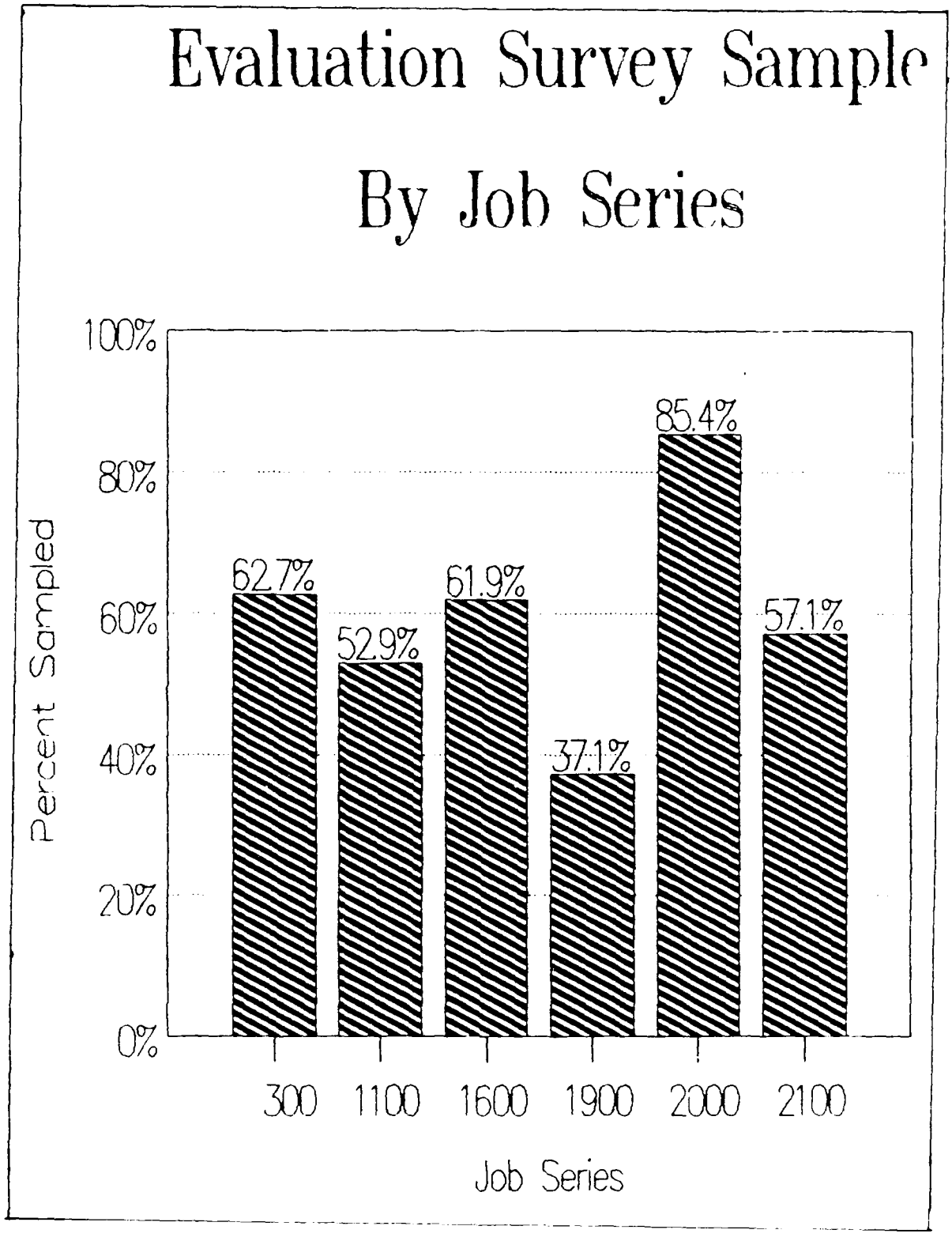


Figure 4. Evaluation Survey Sample by Job Series

calculated in Chapter III. The computed minimum sample would have produced a 95 plus or minus 5 percent confidence interval. Therefore, the response sample appears to be representative of the study population, with the possible exception of the 1900 job series group. Once the sample of respondents was determined to be representative of the actual population, their responses were analyzed to determine if they fit the AFIT Civilian Model.

Evaluation Using the AFIT Civilian Model

In the first part of this research, the evaluation survey respondents were evaluated against the AFIT Civilian Model. Based on a possible total score of 100 points, the respondents received points for each model element when they possessed the necessary qualifications. The element weights were rounded to the nearest tenth of a percent. As a result of this rounding, the highest possible model score was actually 100.2 points. A dichotomous scoring system was used to evaluate each survey response. In other words, the respondent received either full credit for possession of a given element characteristic or no credit for non-possession. More detailed scoring guidelines are included in Table 1 and also in Gregor's thesis (Gregor:53-56, 129-130).

Research Question One

What particular weaknesses (areas of poor model fit) characterize mid-level logisticians?

The research used SPSSx to compute individual model scores and descriptive statistics to answer research question one. The SPSSx application programs are in Appendix F.

Model Scores. Mid-level logisticians did not score well against the AFIT Civilian Model. The mean model score was 49.3 points with a standard deviation of 13.8. No individual scored over 85 points. Nearly 25 percent scored less than 40 points out of 100. Figure 5 shows the distribution of model scores. The distributions of dimension scores are shown in Figures 6 through 8. The breakdown of mean model, dimension, and category scores is in Table 2.

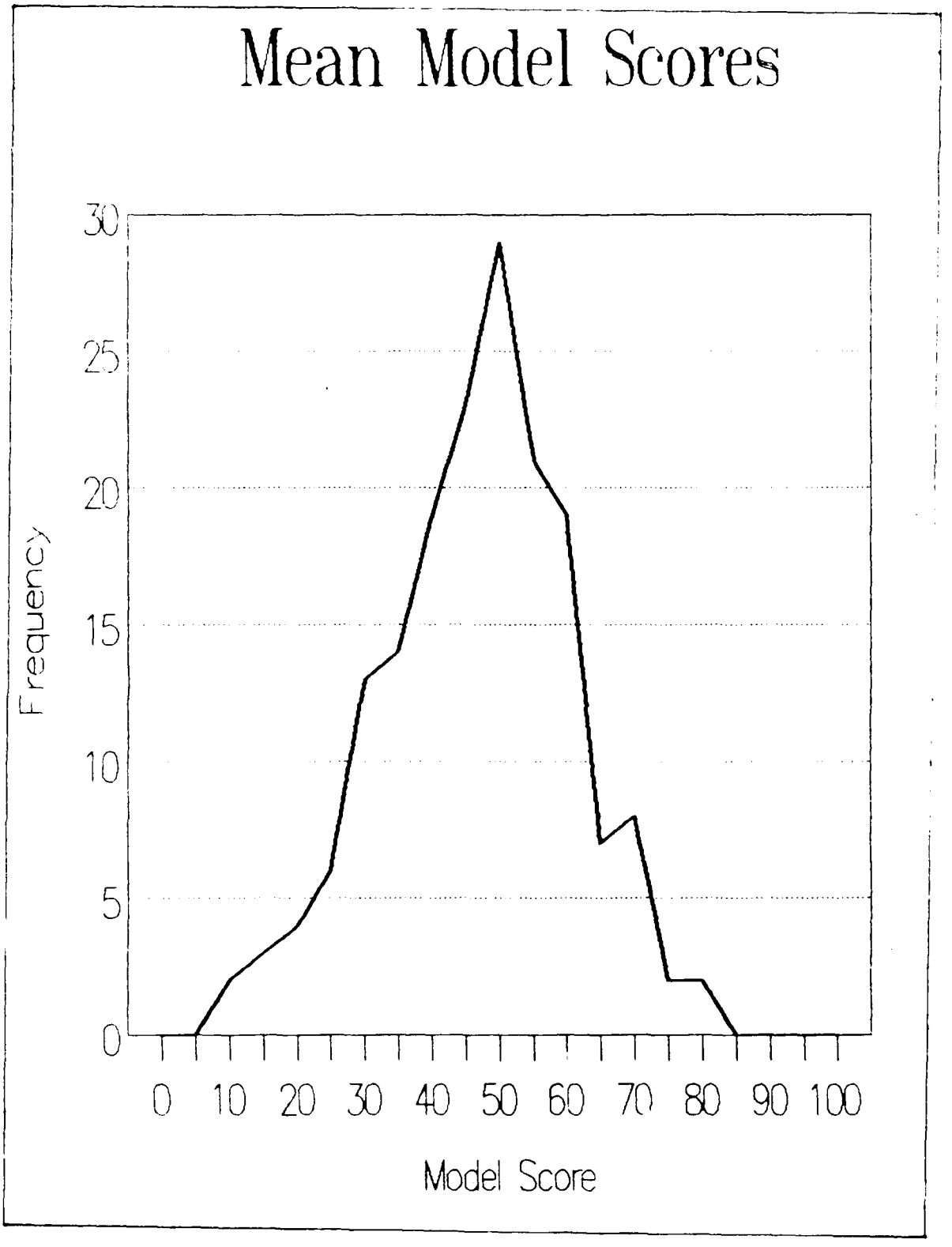


Figure 5. Mean Model Scores

Table 2. Mean Model, Dimension, and Category Scores

	Mean Score	Std. Dev.	Min. Score	Max. Score	Max. Possible
Model Score	49.3	13.8	12.9	82.2	100.2
Dimensions					
Experience	19.8	9.8	0.0	40.0	40.0
Education and Training	10.2	6.9	0.0	25.2	25.2
Professional Attributes	19.3	4.2	6.0	27.0	35.0
Categories					
Assignments in Logistics	11.7	6.6	0.0	18.9	18.9
Advanced Positions	5.4	5.6	0.0	13.8	13.8
Mobility	2.7	3.5	0.0	7.3	7.3
College Degrees	3.9	4.4	0.0	12.0	12.0
PCE	5.0	4.2	0.0	8.5	8.5
PME	1.3	2.1	0.0	4.7	4.7
Personal Qualities	5.6	1.7	1.4	9.0	11.5
Technical Competence	9.2	3.3	0.0	10.9	10.9
Professional Skills	4.2	1.1	1.0	7.5	8.5
Professional Involvement	0.3	0.7	0.0	4.1	4.1

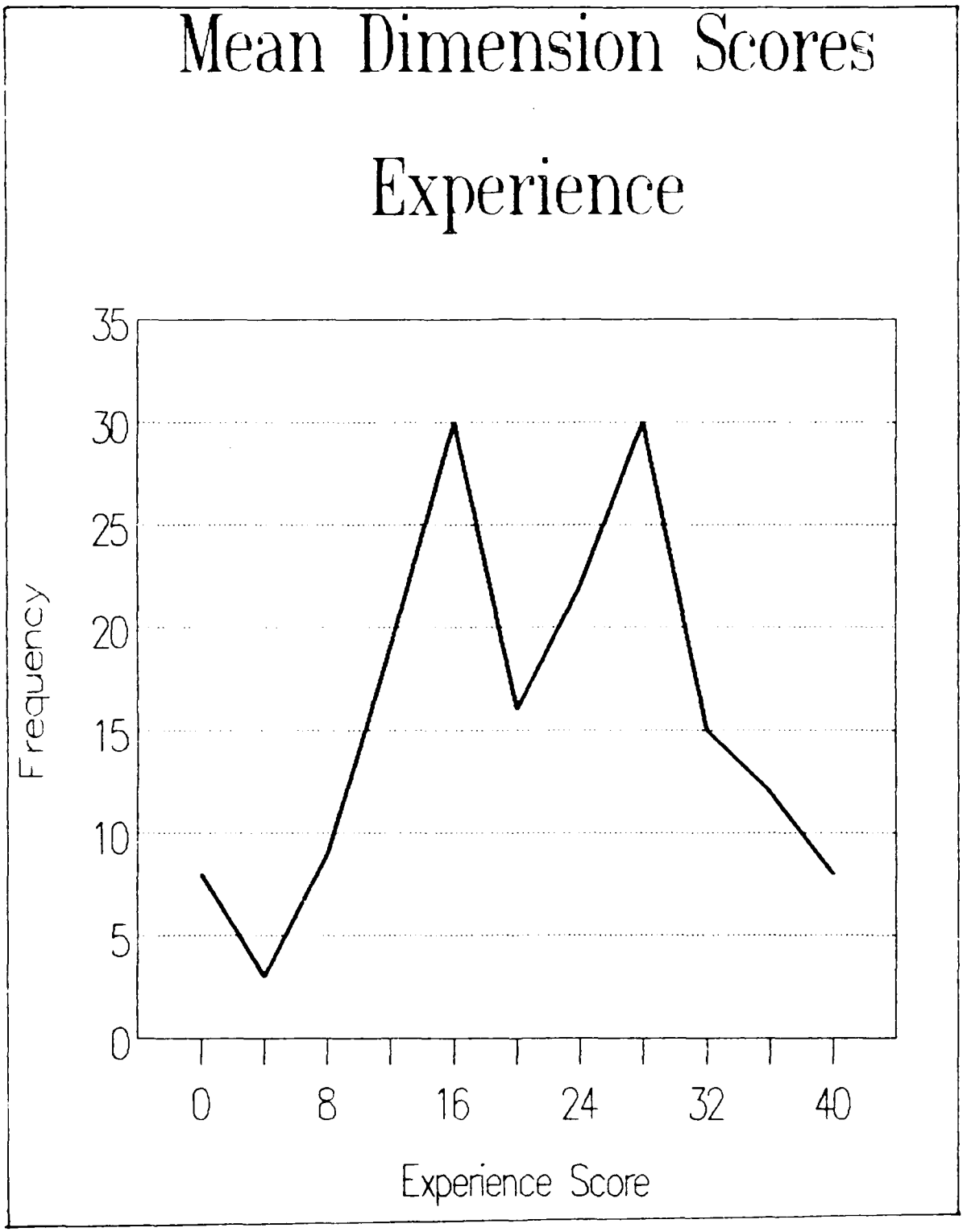


Figure 6. Mean Dimension Scores: Experience

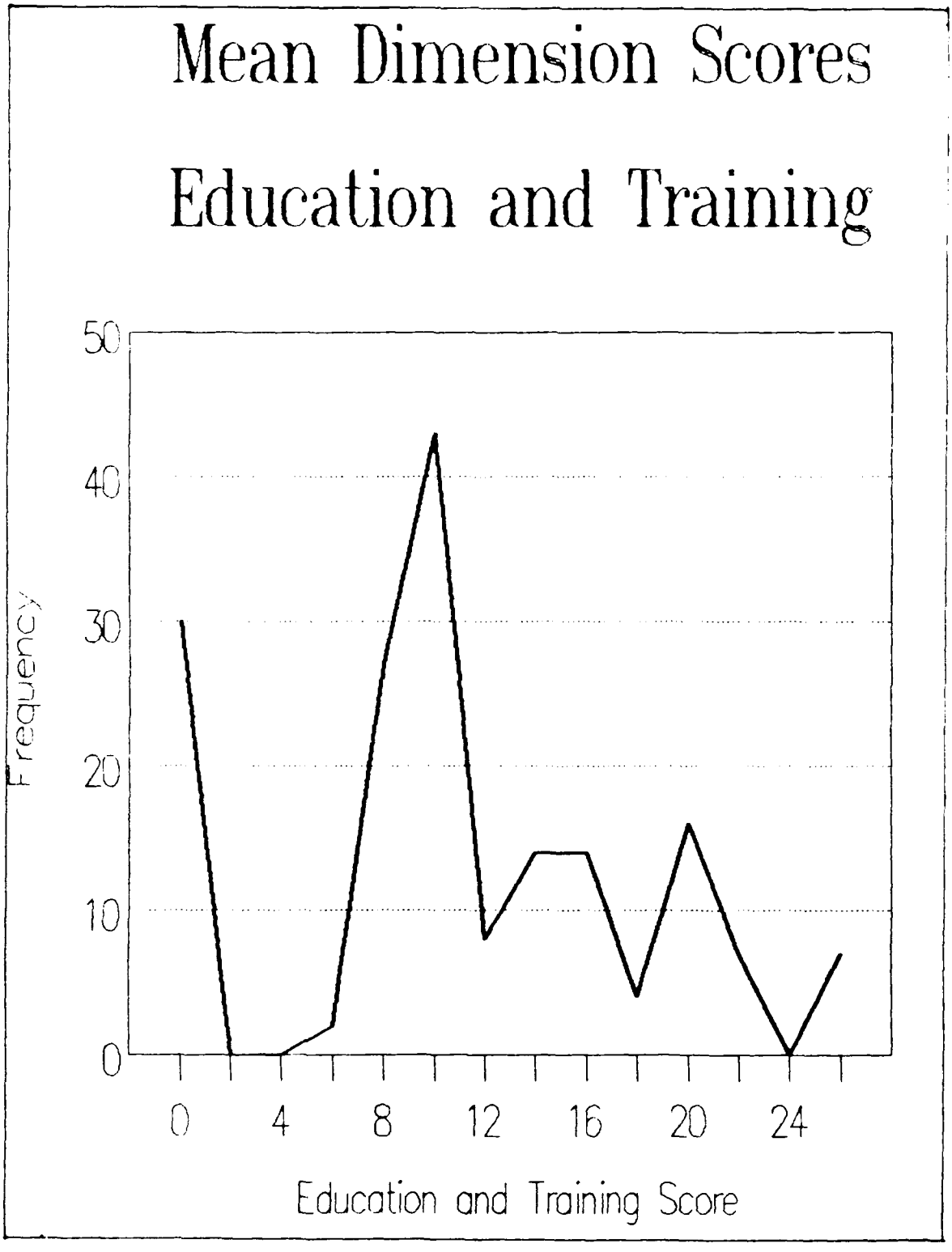


Figure 7 Mean Dimension Scores: Education and Training

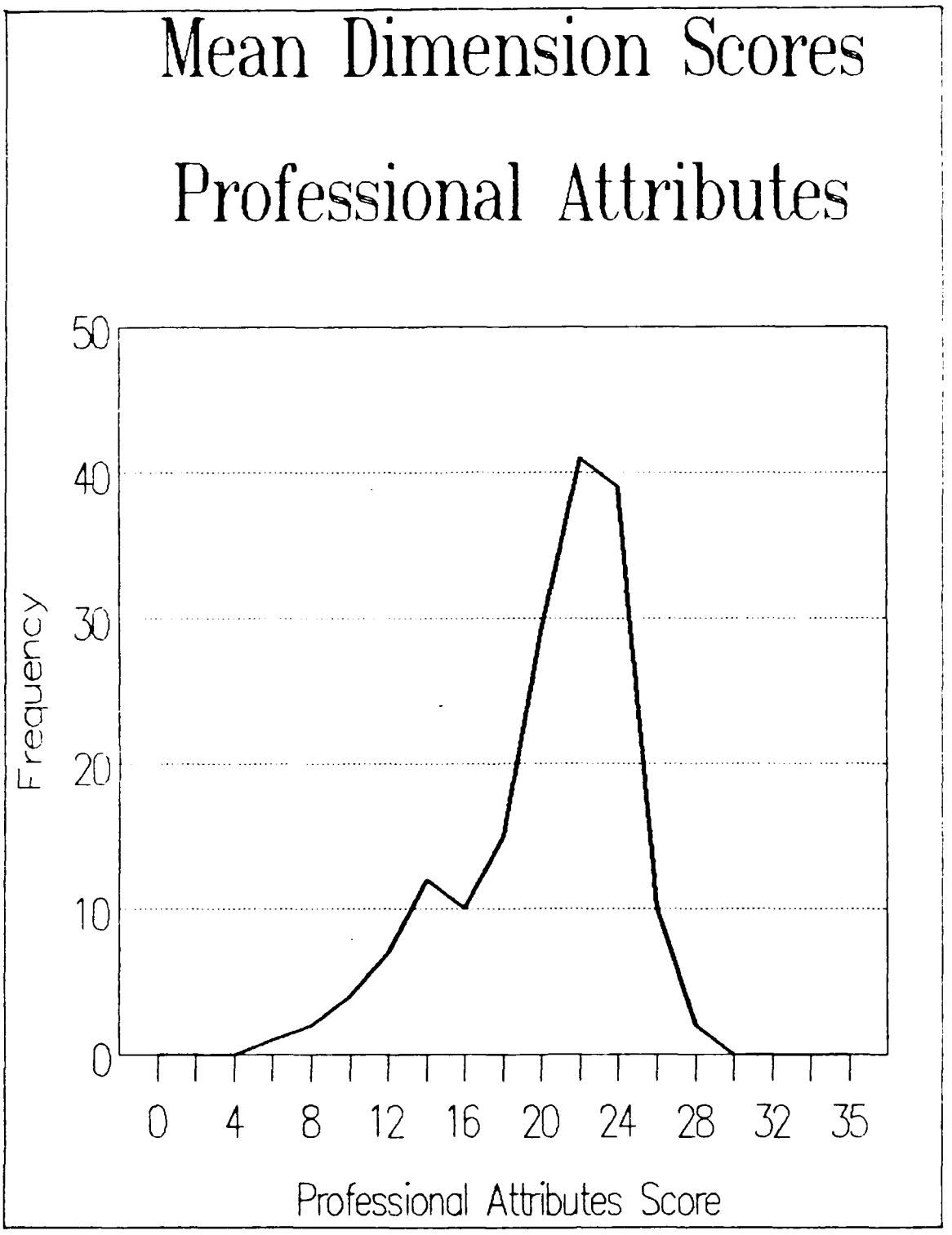


Figure 8. Mean Dimension Scores: Professional Attributes

Dimension Scores. The respondents did not score well on any of the three model dimensions. Figures 9 and 10 show model fit based on the three dimensions. Figure 9 shows each mean dimension score as a percentage of its maximum possible score. For example, in the dimension of experience, the mean dimension score was 19.8 and the maximum possible score in this dimension was 40.0. Therefore, the dimension percentage shown in Figure 9 for this dimension is 19.8/40.0 = 49.5 percent.

Figure 10 shows the Spearman Rank Correlation of the dimension percentages as calculated above with their respective maximum possible dimension scores. For example, in the dimension of experience, the dimension percentage was 49.5 percent, which was the second highest of the three dimension percentages and therefore received a rank of two. All dimension percentages were ranked accordingly from one to three. Likewise, the maximum possible score in the dimension of experience was 40.0, which was the highest of the three maximum possible dimension scores and therefore received a rank of one. All maximum possible dimension scores were ranked accordingly from one to three. The Spearman Rank Correlation then compared these two paired ranks to indicate the correlation between dimension percentages and maximum possible scores (Siegel:202-211).

The mean experience score was 19.8 with a standard deviation of 9.8. Three percent of the individuals earned

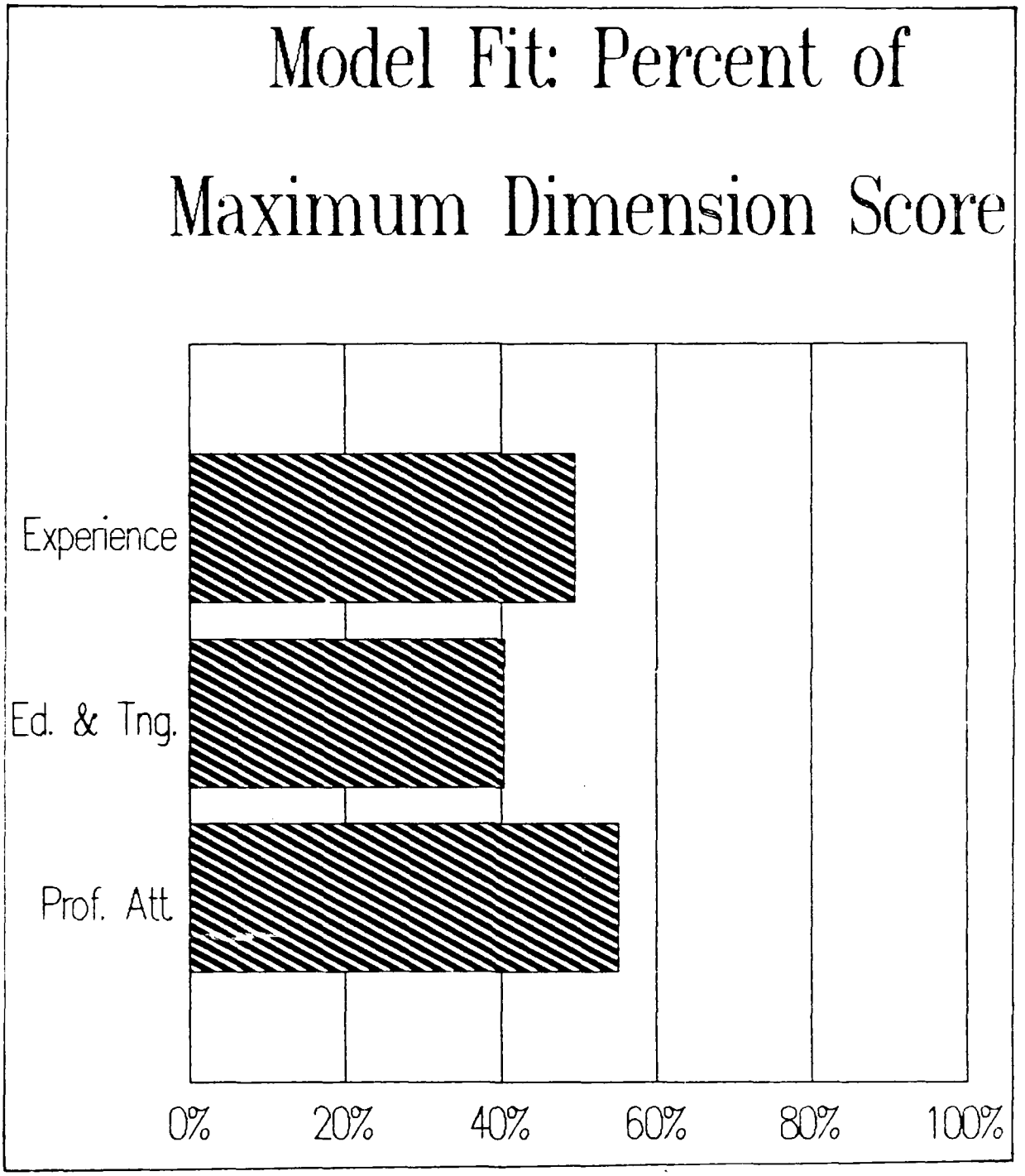


Figure 9. Model Fit: Percentage of Maximum Dimension Score

the top experience score of 40 points. The mean education and training score was 10.2 with a standard deviation of 6.9. Four percent of the individuals earned the top education and training score of 25.2 points. The mean professional attributes score was 19.3 with a standard deviation of 4.2. No individuals earned the top professional attributes score of 35.0 points, as the maximum score attained in this dimension was 27.0 points.

CASE	PERCENT	RANK	MAX	RANK
Experience	49.50	2	40.00	1
Education and Training	40.48	3	25.20	3
Professional Attributes	55.14	1	35.00	2

	PERCENT	MAX
PERCENT	1.0000	
MAX	0.5000	1.0000

CASES INCLUDED 3 MISSING CASES 0

Figure 10. Spearman Rank Correlations for Model Dimensions

Category Scores. Figures 11 and 12 show model fit based on the ten categories. Figure 11 shows each mean category score as a percentage of its maximum possible score. For example, in the category of assignments in logistics, the mean category score was 11.7 and the maximum possible score in this category was 18.9. Therefore, the percentage shown in Figure 11 for this category is 11.7/18.9 = 61.9 percent.

Figure 12 shows the Spearman Rank Correlation of the category percentages as calculated above with their

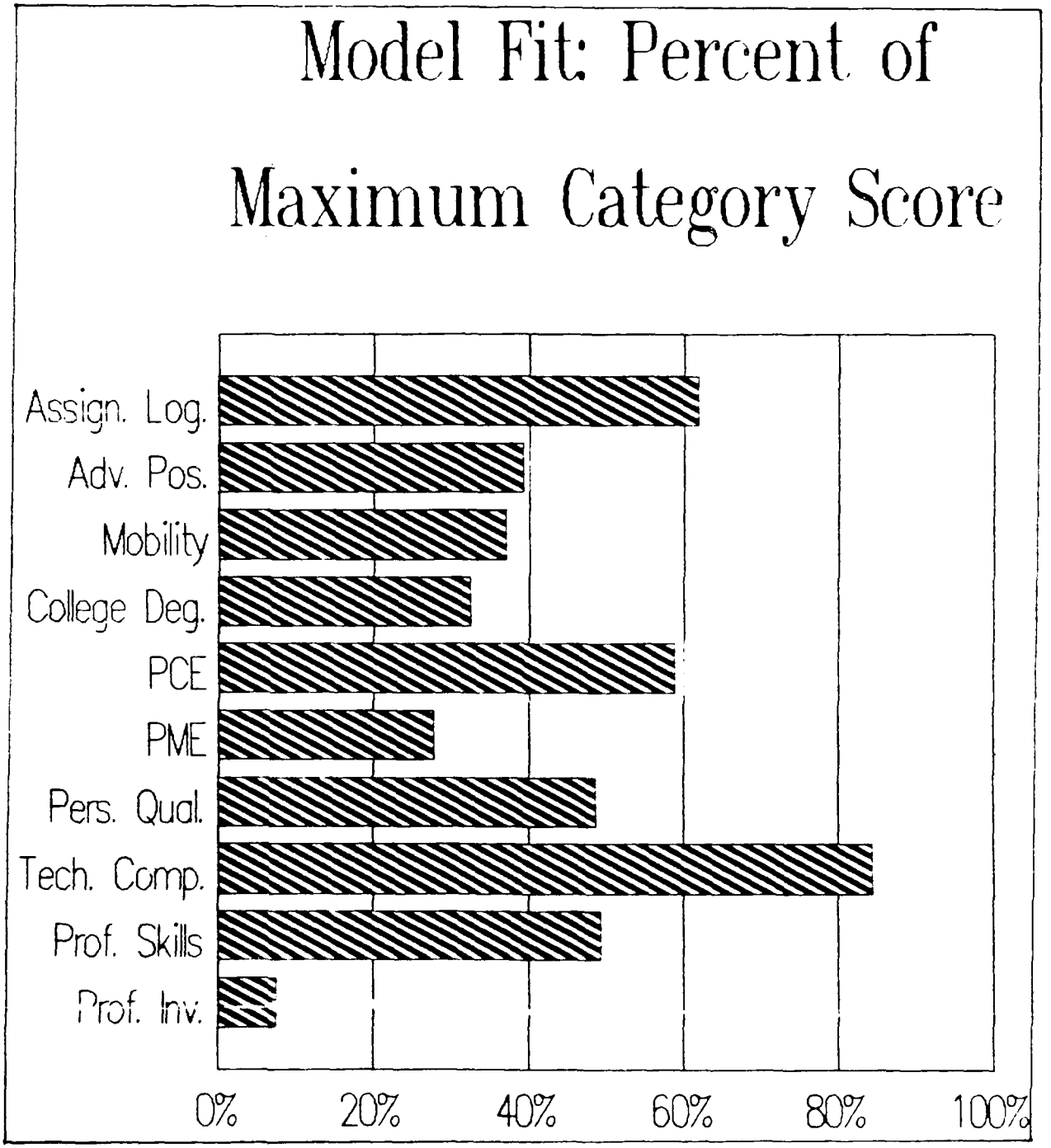


Figure 11. Model Fit: Percentage of Maximum Category Score

respective maximum possible category scores. For example, in the category of assignments in logistics, the category percentage was 61.9 percent, which was the second highest of the ten category percentages and therefore received a rank of two. All category percentages were ranked accordingly from one to ten. Likewise, the maximum possible score in the category of assignments in logistics was 18.9, which was the highest of the ten maximum possible category scores and therefore received a rank of one. All maximum possible category scores were ranked accordingly from one to ten. The Spearman Rank Correlation then compared these two paired ranks to indicate the correlation between category percentages and maximum scores.

CASE	PERCENT	RANK	MAX	RANK
Assignments in Logistics	61.90	2	18.83	1
Advanced Positions	39.13	6	13.78	2
Mobility	36.99	7	7.340	8
College Degrees	32.50	8	11.90	3
PCE	58.82	3	8.530	6.5
PME	27.66	9	4.650	9
Personal Qualities	48.70	5	11.50	4
Technical Competence	84.40	1	10.93	5
Professional Skills	49.40	4	8.530	6.5
Professional Involvement	7.320	10	4.010	10

	PERCENT	MAX
PERCENT	1.0000	
MAX	0.5228	1.0000

MAXIMUM DIFFERENCE ALLOWED BETWEEN TIES 1.00E-05

CASES INCLUDED 10 MISSING CASES 0

Figure 12. Spearman Rank Correlations for Model Categories

Within the experience dimension, respondents did not score well on any category except assignments in logistics. The mean assignments in logistics score was 11.7 points, about 62 percent of the 18.9 points possible. The respondents did not score as well in the advanced positions or geographic mobility categories. In advanced positions, the mean score was 5.4 points, about 39 percent of the 13.8 points possible. In mobility, the mean score was 2.7, about 37 percent of the 7.3 points possible.

Within the education and training dimension, respondents did not score well on any category except Professional Continuing Education (PCE). The mean PCE score was 5.0 points, about 59 percent of the 8.5 points possible. The respondents did not score as well in the college degree and Professional Military Education (PME) categories. In college degrees, the mean score was 3.9 points, about 33 percent of the 12.0 points possible. In PME, the mear score was 1.3 points, about 27 percent of the 4.7 points possible.

Within the final dimension of professional attributes, respondents scored well in the technical competence category. The mean technical competence score was 9.2 points, about 84 percent of the 10.9 points possible.

The respondents did not score well in the professional involvement category. The mean professional involvement score was 0.3 points, about 7 percent of the 4.1 points possible. Due to other than dichotomous scoring methodology,

scores in the personal qualities and professional skills categories are analyzed in the element scores section of this chapter.

Element Scores. Element scoring used dichotomous scoring rules. Therefore, the number and percentage of individuals who earned credit for each element provide the best measure of respondent strengths and weaknesses. Table 7 shows the frequencies and percentages of the sample receiving credit for each element by category.

Within the dimension of experience, in the category of assignments in logistics, a majority of the respondents reported experience in both the wholesale and acquisition logistics elements. Over 70 percent of the respondents reported they had wholesale logistics experience, and nearly 60 percent reported they had acquisition logistics experience. Since these were also the two most heavily weighted elements in this category, the respondents appear to fit the model well in the assignments in logistics category, although less than 40 percent reported experience in the other four assignment elements.

Also within the dimension of experience, in the category of advanced positions, the majority of the respondents reported experience in either management/supervisory positions or staff positions, but less than 55 percent of the respondents claimed their experience was primarily in logistics. Therefore, 47 percent and 26 percent of the

Table 3. Dichotomous Element Scoring

Category Element	Frequency	Percentage
Assignments in Logistics		
Wholesale Logistics	121	70.3
Acquisition Logistics	102	59.3
Assignment in Oper. Command	65	37.8
Retail Logistics	59	34.3
Combat Logistics	56	32.6
International Logistics	45	26.2
Advanced Positions		
Management/Supervisory Pos.	81	47.1
Staff Position	44	25.6
College Degree		
Bachelors Degree	83	48.3
Masters Degree	22	12.8
Technical Competence		
System/Item/Program Mgt.	148	86.0
Maintenance Competence	108	62.8
Engineering Competence	51	29.7
Procurement Competence	91	52.9
Logistics Plans Competence	142	82.6
Supply Competence	121	70.3
Transportation Competence	90	52.3
Professional Involvement		
Active Member	12	7.0
Conference Presenter/etc.	5	2.9
Conference Attender	32	18.6

respondents received credit for management/supervision and staff positions, respectively. Since these are the first and fourth most heavily weighted elements in the entire model, the respondents do not appear to fit the model well in the advanced positions category. The last category in the experience dimension is geographic mobility. Since this category is not subdivided into elements, the previous category score discussion adequately shows that respondents do not fit the model well in this category.

Within the education and training dimension, in the category of college degrees, less than 50 percent of the respondents reported they had earned either a Bachelors or Masters degree. Although the college degree category is the third most highly weighted of the ten model categories, only 48 percent and 13 percent of the respondents had earned bachelors and masters degrees, respectively. This overall 61 percent college degree completion rate is lower than the 6. percent rate reported for the group of GS/M-12/13 LCLEP registrants promoted during FY 88 (Russell:32). Therefore, it appears that the respondents do not fit the model well in the college degree category.

The last categories in the education and training dimension are Professional Continuing Education (PCE) and Professional Military Education (PME). Since these categories are not subdivided into elements, the preceding category score discussion was sufficient to show that the

respondents appear to fit the model well in the PCE category, but do not appear to fit the model well in the PME category.

Within the professional attributes dimension, in the category of technical competence, a majority of the respondents rated themselves as competent in each of the seven technical competence elements except engineering. The element receiving the highest percentage of respondents was system/item/program management with 86 percent. This was also the highest weighted element in this category. The element receiving the lowest percentage of respondents was engineering competence, with 30 percent. This was the third most highly weighted element in this category. Therefore, with the exception of engineering competence, it appears that the respondents fit the model well in the technical competence category.

Within the same dimension, in the category of professional involvement, a small number of the respondents reported involvement in a professional logistics organization. Seven percent of the respondents reported being active members, while three percent of the respondents reported having been a conference presenter/panel leader/moderator. These were the two most highly weighted elements in this category. Therefore, it appears that the respondents do not fit the model well in the professional involvement category.

The last categories in the professional attributes dimension are personal qualities and professional skills. The elements in these categories were not scored dichotomously as in the other categories. Instead, the respondents received credit for an element if they rated themselves equal to or higher than the mean GS/M-13/13 respondent rating for that element. Table 4 shows these mean ratings by element for the two categories of personal qualities and professional skills. Figures 13 and 14 show the Spearman Rank Correlations for actual mean ratings by element versus the model element weights for personal qualities and professional skills, respectively. These two figures help the reader see how the respondents fit the model in these two categories.

Table 4. Mean Respondent Ratings for Personal Qualities and Professional Skills

Personal Qualities	Mean Ratings
Common Sense	15.6
Integrity	15.1
Initiative	13.9
Dedication	13.9
Communication	13.5
Leadership	13.1
Management	13.0
Other	0.0

Table 4. Mean Respondent Ratings for Personal Qualities and Professional Skills, continued

Professional Skills	
Job Knowledge	22.8
Problem Solving/Systems Viewpoint	18.9
Planning Ability	17.4
Analytical Techniques	14.6
Thorough Staff Work	13.1
Resourcing Ability	12.2
Other	1.1

In the category of personal qualities, the respondents rated themselves highest in the elements of common sense and integrity, but next to lowest in leadership. Leadership and integrity are the two most heavily weighted elements in this category.

CASE	ACTUAL	RANK	MODEL	RANK
Common Sense	16.60	1	1.44	5
Integrity	15.10	2	2.04	2
Initiative	13.90	3	1.46	4
Dedication	13.80	4	1.09	7
Communication	13.60	5	1.75	3
Leadership	13.10	6	2.44	1
Management	13.00	7	1.37	6

	ACTUAL	MODEL
ACTUAL	1.0000	
MODEL	-0.0000	1.0000

CASES INCLUDED 7 MISSING CASES 0

Figure 13. Spearman Rank Correlations for Personal Qualities

The Spearman Rank Correlation is 0.00. Therefore, the respondents do not fit the model well in the category of personal qualities.

In the category of professional skills, the respondents rated themselves highest in the elements of job knowledge and problem solving/systems viewpoint. These two elements are also the two most heavily weighted elements in this category.

CASE	ACTUAL	RANK	MODEL	RANK
Job Knowledge	22.80	1	2.11	1
Problem Solving	18.90	2	1.69	2
Planning Ability	17.40	3	1.30	4
Analytical Techniques	14.60	4	1.06	5
Thorough Staff Work	13.00	5	1.03	6
Resourcing Ability	12.20	6	1.34	3

	ACTUAL	MODEL
ACTUAL	1.0000	
MODEL	0.6571	1.0000

CASES INCLUDED 6 MISSING CASES 0

Figure 14. Spearman Rank Correlations for Professional Skills

The Spearman Rank Correlation is 0.66. Therefore, the respondents appear to fit the model well in the category of professional skills.

Classification Survey

The purpose of the classification survey was to determine what types of professional development programs exist for civilian logisticians in AFLC. A structured

telephone interview consisting of nine open-ended questions was used to inventory existing professional development programs and classify them into the same ten categories used in the AFIT Civilian Model. The complete classification methodology is included in Appendix E. The classification survey is included in Appendix C.

Population Representation. The survey respondents were selected to ensure their answers represented the full range of existing professional development programs. As described in Chapter III, four respondents were chosen from HQ AFLC and three respondents were chosen from each of the ALCs. In addition, the respondents were chosen to represented civilian personnel training and staffing offices, and directorate and division levels at each location. All of the 19 total selected respondent organizations agreed to participate in the survey, for a response rate of 100 percent. The classification survey responses are included in Appendix D. The same data, after being classified into the ten AFIT Civilian Model categories, is included in Appendix E.

Classification Using the AFIT Civilian Model

In the second part of this research, the classification survey responses were classified using the AFIT Civilian Model. Based on the ten model categories, the responses were classified into their applicable categories. For instance, if a response indicated that short courses were available

through AFIT, the response was classified under the categories of professional continuing education, technical competence, and professional skills. A dichotomous scoring system was used to evaluate each survey response. In other words, the response received either full credit for a particular category, or no credit for that category. Detailed classification guidelines are in Appendix E.

Research Question Two

What programs exist at Air Force, Major Command, and base levels to facilitate professional development?

In order to answer research question two, the programs that were identified by the classification survey were further classified into the ten model categories of the AFIT Civilian Model.

Program Classification. The results of the classification survey will be discussed by model category, starting with those categories under the dimension of experience and continuing in order through education and training and professional attributes. Each of the ten categories is represented with a table (Tables 5-14) showing applicable classification survey responses and the number of respondents giving each response. The abbreviations/acronyms included in these tables are spelled out and explained in Appendix D.

Under the dimension of experience, Table 5 highlights the major role played by local programs in promoting a variety of assignments in logistics. Even in those programs which are centrally managed, local programs play a large role by selecting individuals for participation. A total of 40 responses were received for programs promoting assignments in logistics.

Table 5. Experience: Assignments in Logistics

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
15	Rotations between directorates: local program
8	Career broadening using LCCEP
4	Normal assignment process through AFCPMC
3	Education with Industry assignment
3	Rotations within directorates: local program
3	Palace Acquire
2	Maintenance Recruitment and Development Prog.
1	Office Assistant Secretary of Defense Assign.
1	Palace Share DX3 Pay Band program

In contrast to assignments in logistics, Table 6 highlights the major role played by centrally managed programs in promoting advanced positions. A total of 18 responses were received for programs promoting advanced positions.

Table 6. Experience: Advanced Positions

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
8	Career broadening to MAJCOM, USAF using LOCEP
3	Adv. position selection board: local prog.
3	Palace Acquire
2	Maintenance Recruitment and Development Prog.
1	Normal assignment process through AFCPMC
1	Pacer Share DX3 Pay Band program
1	Office Assistant Secretary of Defense Assign.

Table 7 highlights the major role also played by centrally managed programs in promoting geographic mobility. This is logical, since local managers have little ability to control assignments outside of their organization. A total of 17 responses were received for programs promoting geographic mobility.

Table 7. Experience: Geographic Mobility

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
5	Career broadening to other bases using LCCEP
3	Palace Acquire
3	Normal assignment process through AFCPMC
3	Education with Industry assignment
2	Maintenance Development and Recruitment Prog.
1	Office Assistant Secretary of Defense Assign.

Additionally, the tables reflecting the dimension of experience categories show that programs such as MRDP, OASD, Palace Acquire, and certain LCCEP career broadening assignments are applicable to all three categories of experience.

Under the dimension of education and training, Table 8 portrays the major role self-directed programs play in promoting college degrees. Even in those programs which are base sponsored, self-direction played a major role as interested individuals select themselves for participation. A total of 35 responses were received for programs promoting college degrees.

Table 8. Education and Training: College Degree

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
15	Local university degrees: self-directed prog.
9	AFIT, civilian degree programs through LCCEP
8	Local university degree: base sponsored prog.
1	Identifying education needs through CEP
1	Identifying education needs with local survey
1	Long-Term, Full-Time Training

Table 9 identifies the almost equal roles played by locally and centrally managed programs in providing PCE. However, most responses stated that LCCEP Cadre members have a greater chance of attending courses with limited availability. A total of 37 responses were received for programs promoting PCE.

Table 9. Education and Training: PCE

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
20	Individual AFIT, OPM, EEO, ECI courses, CTM Executive Seminars: locally managed programs
17	AFIT, DSMC, Harvard etc. Fellowship Program. TAC Leadership Course: centrally managed prog.

Table 10 displays the complete role of self-directed programs in promoting PME. Five responses were received for programs promoting PME.

Table 10. Education and Training: PME

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
5	Squadron Officers School, Air Command Staff College, Air War College: self-directed

Table 11 depicts the major role played by local programs in developing personal qualities. A total of 44 responses were received for programs promoting personal qualities.

Table 11. Professional Attributes: Personal Qualities

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
13	Local management, speaker, community groups
10	In-house programs and courses
7	Locally contracted programs and courses
6	OPM courses and Executive Seminars
5	Professional Military Education courses
2	Harvard, Purdue, UCLA Fellowships
1	Defense Systems Management College courses

Table 12 reveals the major roles played by logistics related Professional Continuing Education and college courses in promoting technical competence. A total of 104 responses were received for programs promoting technical competence.

Table 12. Professional Attributes: Technical Competence

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
22	Applicable PCE courses: non-AFIT
21	Local university courses in logistics
18	Rotational assignments: locally managed
12	Professional logistics societies
11	PCE courses: AFIT
10	Career broadening assignments
3	Palace Acquire
2	Maintenance Recruitment and Development Prog.
2	Logistics Training Program (LSTP)
3	Education with Industry

Table 13 indicates the major role played by local programs in promoting professional skills. A total of 95 responses were received for programs promoting professional skills.

Table 13. Professional Attributes: Professional Skills

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
26	Local university and consultant programs
19	Applicable PCE courses: non-AFIT
13	Applicable professional organizations
11	PCE courses: AFIT
8	In-house supervisory training and counselling
5	Professional Military Education
3	Education with Industry

Table 14 demonstrates the major role played by individuals and local organizations within professional societies in promoting professional involvement. A total of 13 responses were received for programs promoting professional involvement.

Table 14. Professional Attributes: Professional Involvement

NUMBER OF RESPONSES	APPLICABLE PROGRAMS
4	American Production Inventory Control Society
3	Professional societies in general
4	Society of Logistics Engineers (SOLE)
1	National Contract Management Assoc. (NCMA)
1	Quality societies (ASQC, AQP)

Table 15 summarizes the classification survey results by listing the ten AFIT Civilian Model categories and the number of corresponding survey responses.

Table 15. Classification Survey Responses by Model Category

Case	Number/Percentage of Responses
Assignments in Logistics	40 / 10.0
Advanced Positions	18 / 4.5
Mobility	17 / 4.3
College Degrees	35 / 8.8
PCE	37 / 9.3
PME	5 / 1.3
Personal Qualities	44 / 11.0
Technical Competence	104 / 26.1
Professional Skills	85 / 21.4
Professional Involvement	13 / 3.3
Total	398 / 100.0

In summary, the second part of this research found that professional development programs existed in each of the AFIT Civilian Model categories, and that many of these programs were self-directed, in addition to the previously identified Air Force, Major Command, and base managed programs.

Evaluation and Classification Comparison

In the third part of this research, the evaluation survey data was compared with the classification survey data using the AFIT Civilian Model as the frame of reference. First, the category percentage scores and the number of classification survey responses were rank ordered. This data

was consolidated from Figure 10 and Table 15. Then, the ranks were paired according to each model category. Finally, the ranks were compared using the Spearman Rank Order Correlation. In this way, the relationship between logistician weaknesses and corresponding professional development programs could be statistically compared.

Research Question Three

Do existing programs appropriately address the mid-level logistician weaknesses (areas of poor model fit) identified in question one?

Non-parametric statistical comparisons of professional development programs with AFIT Civilian Model scores were used to answer research question three.

Comparative Statistics. To see how existing professional development programs were related to logistician weaknesses, the Spearman Rank Order Correlation was used. The number of responses generated by the classification survey (CLASS) were compared with the mean category score expressed as a percentage of the maximum possible score from the evaluation survey (EVAL). These two columns were then rank ordered from highest to lowest. Figure 15 depicts the comparisons as well as the Spearman Rank Correlation.

CASE	CLASS	RANK	EVAL	RANK
Assignments in Logistics	40.000	4	61.900	2
Advanced Positions	18.000	7	39.130	5
Geographic Mobility	17.000	8	36.990	8
College Degree	35.000	6	32.500	7
PCE	37.000	5	58.820	3
PME	5.0000	10	27.650	9
Personal Qualities	44.000	3	48.700	5
Technical Competence	104.00	1	84.400	1
Professional Skills	85.000	2	49.400	4
Professional Involvement	13.000	9	7.3200	10

	CLASS	EVAL
CLASS	1.0000	
EVAL	0.8545	1.0000

CASES INCLUDED 10 MISSING CASES

Figure 15. Spearman Rank Correlations by Model Category (1)

The Spearman Rank Correlation is 0.8545. Therefore, there is a large, statistically significant correlation, p= .001, (Siegel:213), between the number of existing professional development programs for a particular category (as measured using the classification survey) and the category percentage score (as measured by the evaluation survey). In other words, since low category percentage scores are defined as logistician weaknesses, there is a significant negative correlation between the number of existing professional development programs and current mid-level logistician weaknesses.

Figure 16 shows the relationship between existing professional development programs and the Air Force Mid-

depicted in Figure 16 compares the results of the classification survey (CLASS) with the maximum category scores (MODEL).

CASE	CLASS	RANK	MODEL	RANK
Assignments in Logistics	40.000	4	18.830	1
Advanced Positions	18.000	7	13.780	2
Geographic Mobility	17.000	8	7.3400	7
College Degree	35.000	6	11.900	4
PCE	37.000	5	8.5300	6.5
PME	5.0000	10	4.6500	9
Personal Qualities	44.000	3	11.500	4
Technical Competence	104.00	1	10.930	3
Professional Skills	85.000	2	8.5300	6.5
Professional Involvement	13.000	9	4.0100	10

	CLASS	MODEL
CLASS	1.0000	
MODEL	0.4863	1.0000

CASES INCLUDED 10 MISSING CASES 0

MAXIMUM DIFFERENCE ALLOWED BETWEEN TIES 1.00E-05

Figure 16. Spearman Rank Correlations by Model Category (...

The Spearman Rank Correlation is 0.4863. Therefore, there is a small, statistically significant correlation, p= .05 (Siegel:213), between the number of existing professional development programs for a particular category, as measured using the classification survey, and the maximum category score, as defined by the AFIT Civilian Model. In other words, since a category with a high maximum category score is defined as a highly important AFIT Civilian Model category,

there is a low correlation between the number of existing professional development programs and the importance of the particular model category.

In summary, this research found that mid-level civilian logisticians had many weaknesses compared to the AFIT Civilian Model. Existing professional development programs were found to be associated with each of the model categories. However, the numbers and types of program were found to be inappropriately correlated with corresponding logistician weaknesses.

V. Conclusions and Recommendations

Dr. James P. Wade Jr., Assistant Secretary of Defense for Acquisition and Logistics, has expressed his concern for the professional development of Department of Defense (DoD) senior logisticians and the necessity for professional development programs that emphasize "greater diversity of experience and education in several disciplines which make up the logistics field" and "high standards of competency" (Wade:4). These same dimensions of Experience, Education and Training, and Professional Attributes are the cornerstones of the AFIT Civilian Model.

Since 1980, the Air Force has sponsored several career programs to provide career broadening assignments and emphasize training and development activities for senior logisticians (Fox:10). In addition, many MAJCOM, base, and self-directed programs have been created to develop senior logisticians.

More recently, Mr. Alan K. Olsen, Associate Director of Maintenance and Supply, HQ USAF, has stated that integrated professional development programs should begin near the GS-13 level in order to develop professional logisticians (Olsen:1). That premise was the foundation for this research, which sought to answer three questions concerning professional development for these mid-level logisticians.

Although senior DoD and USAF leaders have suggested that changes in professional development are essential, and several programs have created activities for developing professional senior logisticians, USAF mid-level civilian logisticians still seemed to lack necessary professional development programs to meet their weaknesses. Therefore, it became evident that research was necessary to better understand the problem of mid-level professional development.

The purpose of this research was to investigate the relationship between the professional development weaknesses of mid-level Air Force civilian logisticians and the programs designed to meet those weaknesses. The research consisted of three phases: literature review, data collection to determine logistician weaknesses and enumerate existing development programs, and data analysis to determine the relationship between these weaknesses and programs.

The information gathered during these three phases of research provided the necessary information to answer the three research questions proposed in Chapter I. The following sections discuss each question individually.

Research Question One

What particular weaknesses (areas of poor model fit) characterize mid-level logisticians?

As a group, the mid-level Air Force civilian logisticians did not meet the criteria of the AFIT Civilian

Model very well. Their mean score was only 49.3 out of 100 total points. The respondent model scores ranged from a very low score of 12.9 to a moderately high score of 82.2. More specifically, the mid-level logisticians showed weaknesses in all three model dimensions of experience, education and training, and professional attributes. The mean experience score was only 19.8 points out of 40. While 3 percent of the individuals did receive the maximum score of 40 points, as a whole their experience scores showed weaknesses due to their lack of both advanced positions and mobility. Only 39 percent of the respondents met the advanced positions criteria of having held a qualifying management/supervisory position or division level or higher staff position. Only 37 percent of the respondents met the mobility criteria of having had two or more geographic moves.

The mean education and training score was a mere 10.2 points out of 25. While 4 percent of the individuals received the top score of 40 points, their education and training scores showed weaknesses due to their lack of undergraduate and graduate college degrees as well as Professional Military Education (PME). Only 48 and 13 percent of the respondents received credit for having a bachelors or masters degree, respectively. Only 37 percent of the respondents met the PME criteria of having had an Air Command and Staff College level or higher PME course.

The mean professional attributes score for the mid-level logistician was only 19.3 points out of 35. No individuals received the maximum score of 35 points, and their professional attributes scores showed weaknesses due to their lack of both personal qualities and professional involvement. The mean respondent ratings were very poorly correlated with the model personal qualities criteria. Only seven percent of the respondents met the professional involvement criteria of having either an active role or membership in a professional logistics organization.

In summary, the respondents showed weaknesses in six of the ten model categories. Their weaknesses were in the categories of advanced positions, geographic mobility, college degree, PME, personal qualities, and professional involvement.

Research Question Two

What programs exist at Air Force, Major Command, and base levels to facilitate professional development?

In general, the centrally managed Air Force and Major Command levels and locally managed base levels control hundreds of professional development programs. In addition, many self-directed programs were available to individuals. These self-directed programs are neither centrally nor locally managed, but instead are dependent upon each individual's initiative. Taken as a whole, these programs

facilitated development in every dimension and category of the AFIT Civilian Model. More specifically, single programs were usually oriented to meet a particular category of development. Table 16 summarizes the following description by showing the primary management levels associated with each category of professional development programs and associated logistician strengths and weaknesses.

Table 16. Program Management Level

Model Category	Strength/ Weakness	Management Level Central	Local	Individual
Assignments in Logistics	ST		X	
Advanced Positions	W	X		
Geographic Mobility	W	X		
College Degree	W			X
PCE	ST		X	
PME	W			X
Personal Qualities	W		X	
Technical Competence	ST		X	
Professional Skills	ST		X	
Professional Involvement	W			X
Totals	4/6	2	5	3

Within the dimension of experience, programs facilitating assignments in logistics were usually locally managed. These programs were primarily rotations between directorates, but also included limited assignments through the LCCEP career broadening program. Programs facilitating advanced positions were usually centrally managed. These programs were primarily LCCEP career broadening program assignments to Air Force and Major Command level positions.

But there were also local advanced position selection programs for certain high potential individuals. Due to the central control of inter-base personnel assignments, programs facilitating geographic mobility were usually centrally managed. These geographic mobility programs were primarily assignments through the LCCEP career broadening program, but also included Palace Acquire, Education with Industry, Maintenance Recruitment and Development, and Office of the Assistant Secretary of Defense assignment programs.

Within the dimension of education and training, programs facilitating college degrees were usually self-directed. These programs were primarily self-directed local university degree programs, but also included centrally managed civilian degree programs through AFIT and locally managed university degree programs. Programs facilitating Professional Continuing Education (PCE) were primarily locally managed. These programs were locally managed Office of Personnel Management (OPM), Equal Employment Opportunity (EEO), and Extension Course Institute (ECI) courses, and centrally managed Air Force Institute of Technology (AFIT), Defense Systems Management College (DSMC), and Fellowship programs. Programs facilitating PME were entirely self-directed. These programs included Air Command and Staff College equivalent and higher level courses.

Within the dimension of professional attributes, programs facilitating personal qualities were usually locally

managed. These programs were primarily in-house or consultant developed programs and courses, but also included some self-directed involvement in local community, speaking, and managing groups. Programs facilitating technical competence were usually locally managed. These programs were primarily rotational assignments and PCE courses, but also included self-directed university courses and professional logistics society membership, and centrally managed AFIT and assignment programs. Programs facilitating professional skills were usually locally managed. These programs were primarily locally managed university, in-house, and consultant programs and PCE courses, but also included self-directed professional organization membership. Programs facilitating professional involvement were primarily self directed. These programs were primarily self-directed involvement in the American Production and Inventory and Control Society (APICS) and the Society of Logistics Engineers (SOLE), but also included locally managed programs to obtain directorate or division memberships in these organizations.

In summary, a great number and variety of programs exist at Air Force, Major Command, base, and self-directed levels to facilitate professional development. Programs in five of the ten AFIT Civilian Model categories are primarily controlled "locally" at the base level.

Research Question Three

Do existing programs appropriately address the mid-level logistician weaknesses (areas of poor model fit) identified in question one?

In general, existing programs have not appropriately addressed the logistician weaknesses identified in research question one. A significant negative correlation exists between the number of existing programs and current mid-level logistician weaknesses ($r_s = -.8545$). In addition, only a low positive correlation exists between the number of existing programs and the importance of the AFIT Civilian Model categories ($r_s = .4863$). More specifically, the categories of advanced positions, geographic mobility, college degrees, PME, personal qualities, and professional involvement showed mid-level logistician weaknesses (categories with poor model fit) but contained only 33 percent of the existing programs. The categories of assignments in logistics, PCE, technical competence, and professional skills showed mid-level logistician strengths (categories with good model fit) but contained 67 percent of the existing programs.

Within the dimension of experience, in the category of assignments in logistics, mid-level logisticians showed strengths (good model fit) and 10 percent of the programs existed to facilitate their development. However, in the category of advanced positions, these same logisticians

showed weaknesses (poor model fit) and only 4.5 percent of the programs existed to aid their development. In the category of geographic mobility, weaknesses were identified and again only 4.3 percent of the programs existed to aid their development.

Within the dimension of education and training in the category of college degrees, a paradox exists. Many mid level logisticians do not possess college degrees, yet 9.3 percent of the existing programs are designed to aid this development. In the category of PCE, the logisticians show strengths which may be the result of the 9.3 percent of the total programs to assist them. In the category of PME, weaknesses were evident and only 1.3 percent of the programs exist to aid and encourage Professional Military Education.

Within the dimension of professional attributes, in the category of personal qualities, mid-level logisticians reported weaknesses and only 11.0 percent of the programs seem to be appropriate to assist them. In the category of technical competence, the logisticians were strong, apparently the result of the 26.1 percent of the programs available to aid them. In the category of professional skills, they mid-level logisticians again were strong in an area supported by 21.4 percent of the programs. In the final category of professional involvement, the logisticians were very weak and only 3.3 percent of the programs exist to encourage this professional development.

In summary, existing professional development programs have not appropriately addressed the full range of weaknesses of the current Air Force civilian logistician. The four AFIT Civilian Model categories where mid-level logisticians showed few weaknesses were the same categories where many professional development programs existed. In other words, where numerous programs have been offered, the mid-level logistician has taken advantage of them. The converse of this conclusion is equally true for five of the six major weakness categories. Mid-level logistician's weaknesses persist when few programs are available. The only exception to this relationship occurred in the category of college degrees. Here logistician weaknesses persist in spite of every location having programs with local universities. Figure 17 illustrates the relationship between weaknesses and programs. This research did not specifically investigate the negative correlation between existing programs and AFIT Civilian Model categories, but the results show an overall inappropriate alignment of programs with model categories.

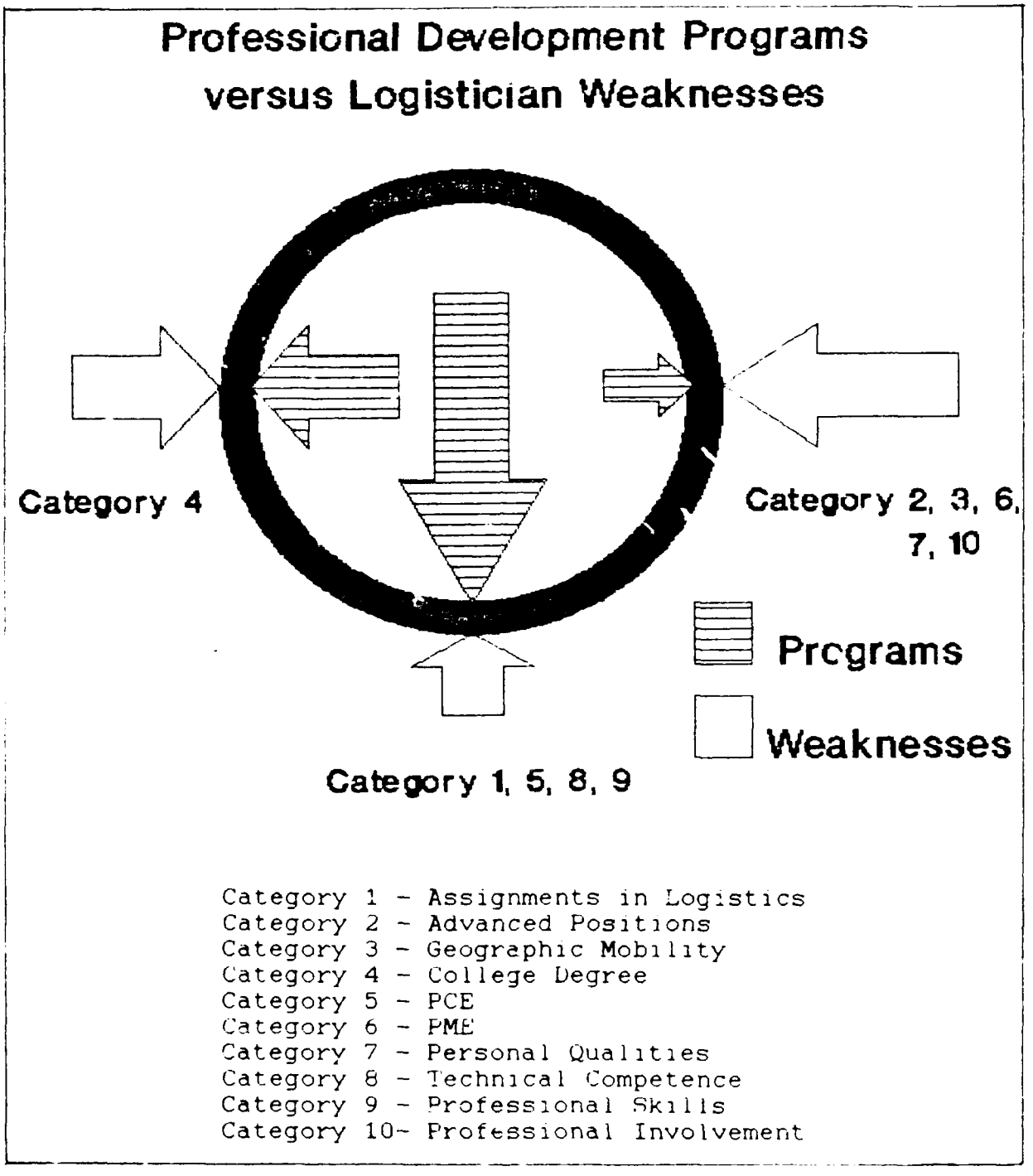
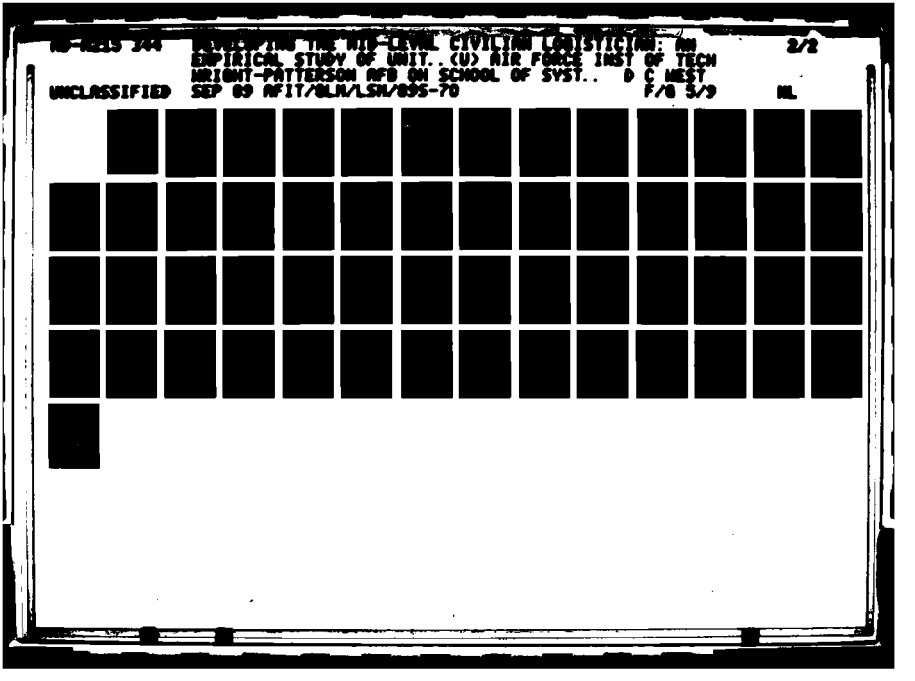
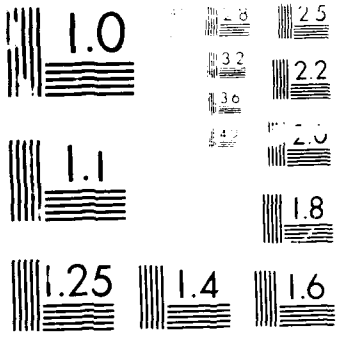


Figure 17. Development Programs vs. Logistician Weaknesses


AD-A115 344
EMPIRICAL STUDY OF UNIT..(U) AIR FORCE INST OF TECH
WRIGHT-PATTERSON AFB OH SCHOOL OF SYST.. D C WEST
UNCLASSIFIED SEP 69 AFIT/GLM/LSM/69S-70
2/2
F/G 5/9
NL


1.0
1.1
1.25
1.4
1.6
1.8
2.2
2.5

Discussion

The mid-level logisticians weaknesses can be explained in several ways. First, their weaknesses may be seen as a result of their relative grade. GS/GM-12s and -13s are less likely to be selected for certain professional development programs than more senior logisticians. Second, their weaknesses may be a result of an inappropriate emphasis on professional development programs. This explanation will be more fully discussed with question three. Third, their weaknesses may also be the result of a lack of responsibility, initiative, or individual action in the light of many self-directed programs. For example, several classification survey respondents stated individuals "must take the initiative" in their development. In fact, these three explanations may be complementary and the combination will likely explain the majority of mid-level logistician weaknesses. A large number and variety of professional development programs exist under "local" managers control. The fact that 50 percent of the AFIT Civilian Model categories are covered by locally managed development programs may be explained as follows. The number, variety, and local control of these programs seem to be the result of an increased emphasis upon professional development, especially at the base level. For example, the classification survey respondents were consistently knowledgeable and very enthusiastic about <u>their</u> programs.

These local managers seemed to enjoy great autonomy in creating programs they saw as necessary.

The poor correlation between mid-level logistician weaknesses and applicable professional development programs can be explained in at least two ways. First, the abundance of programs in areas where few weaknesses exist (and the converse of this situation) can be seen from the "success breeds success" perspective. That is to say, that successful programs stimulate many similar programs. Some might call this a "bandwagon" explanation. However, the inequitable distribution of programs can also be seen as the tendency for professional development program managers to maintain the "status quo" without periodically re-assessing mid-level logistician weaknesses and adjusting their program orientation accordingly. These explanations are somewhat complementary. They also hold great promise for future success. If managers at all levels can re-orient their programs to reflect current weaknesses, this research shows that their efforts will be rewarded with corresponding gains in professional development.

Contributions

This research made several potential contributions to the process of Air Force logistician development. These contributions include increasing the visibility of both mid-level logistician weaknesses and the number and types of

professional development programs. Additionally, this research provided an independent look and conclusions concerning professional development program appropriateness for Air Force mid-level civilian logisticians. Finally, the research developed a model framework for assessing these programs.

The current research provided visibility of mid-level logistician weaknesses. The problem statement showed the necessity of better understanding this previously unstudied population. This research detailed and quantified the weaknesses of GS-12 to GM-13 logisticians, according to the categories of the AFIT Civilian Model. This information is potentially useful to individual logisticians, who may now compare themselves to both the AFIT Civilian Model and to the population of mid-level civilian logisticians as studied by the evaluation survey.

The study also provided visibility of existing professional development programs. The problem statement showed the necessity of better understanding these previously unstudied programs. This research described and quantified professional development programs, according to the categories of the AFIT Civilian Model. This information is potentially useful to professional development program managers, who may now compare their programs to both the AFIT Civilian Model and to other existing programs as studied by the classification survey.

This research provided an independent look at the appropriateness of these programs and suggested conclusions based on their correlation with logistician weaknesses. It also developed a model framework for future program assessment. The problem statement showed the necessity of better understanding the relationship between these programs and weaknesses. The research described the reasons for the large negative correlation between current mid level civilian logistician weaknesses and corresponding professional development programs.

Recommendations

The research developed four recommendations for action and further research. First, the AFIT Civilian Model needs to be published as a professional development guide for use by Air Force mid-level civilian logisticians. Second, the senior Air Force leadership needs to be made aware of the inappropriate emphasis of many professional development programs.

Third, further research should be performed to determine why so few mid-level logisticians have college degrees when so many programs exist. Fourth, future study should determine what specific programs should be targeted at the weaknesses of mid level civilian logisticians.

Appendix A: Evaluation Survey

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.

3 March 1989

Dear Professional Logictician

I am asking for your assistance in a research project being conducted by the AFIT School of systems and Logistics. I am involved only in an advisory role, but I have a deep interest in the topic.

Captain David West, a graduate student, is doing thesis research to provide a better understanding of professional development for senior logisticians. To help us understand professional development, we are asking you to participate in a survey which measures current development programs and future development needs.

This survey should take about 30 minutes to complete. We would appreciate it very much if you would respond to the survey and return it in the enclosed envelop within one week. Your responses will remain anonymous and will be reported only as aggregate data.

Your insights and honest opinions are vital to the success of this important research. The results of this study will provide valuable insight for future professional development planners. If you have any questions about this project, please call Captain West at AUTOVON 785-5435. Thank you for helping.

ALAN K. OLSEN
Associate Director
Dir of Maint & Supply

USAF SN 89-30

AIR FORCE CIVILIAN LOGISTICIAN SURVEY

The purpose of this survey is to determine the characteristics, qualities, and background of current Air Force civilian logisticians. The results obtained from this survey will be used to explain what makes a civilian logistician successful. Your inputs will be valuable to the career development of future senior civilian logisticians.

Some questions require you to rate your capabilities. It is very important that you do this honestly. Please be assured that your responses will remain anonymous. Only aggregate data will be reported.

Some questions require you to specify whether experience or training was obtained during prior military service or during your civil service career. This is so the researcher can obtain an accurate picture of your civil service experiences. For questions where no such specification is made, you should answer based on all your experience.

Please mark your answers on this questionnaire. If you have any questions while you are completing this survey, do not hesitate to call Capt David West at AFIT, AUTOVON 785-5435.

1. What is your current job series?

a. 301
b. 343
c. 345
d. 346
e. 1101
f. 1670
g. 1910
h. 2003
i. 2010
j. 2130
k. Other _____

2. How many years of prior military service do you have?

a. 5 or less
b. 6 to 10
c. 11 to 15
d. 16 to 20
e. 21 or more
f. I DO NOT have prior military service.

The next section of this survey asks questions about your experience. Some definitions are in order. Program management refers to weapons system acquisition or follow-on logistics support. Combat logistics includes actual wartime experience as well as combat planning and combat exercises such as REFORGER or Red Flag. Item manager experience is defined as wholesale logistics, not retail logistics. Retail logistics includes only base level logistics plans, maintenance, procurement, supply, or transportation.

3. In which of the following logistics disciplines have you had assignments? (please mark all that apply)

a. Acquisition Logistics
b. International Logistics
c. Combat Logistics
d. Retail Logistics
e. Wholesale Logistics

4. Where did you obtain your experience in acquisition logistics? (please mark all that apply)

a. Program management in AFLC
b. Program management in AFSC
c. Program management in other MAJCOM or SOA
d. Defense Logistics Agency
e. Air Force Plant Representative Office
f. Other (please specify) _____
g. I DO NOT have acquisition logistics experience.

5. Where did you obtain your experience in international logistics? (please mark all that apply)

a. International Logistics Center
b. Air Logistics Center
c. Security Assistance Office
d. Program Management in AFSC
e. Other (please specify) _____
f. I DO NOT have international logistics experience.

6. Where did you obtain your experience in combat logistics? (please mark all that apply)

a. Actual wartime experience (please specify) _____
b. Combat exercise planning or participation (please specify) _____
c. Mobility planning
d. Logistics Operations Center
e. Other (please specify) _____
f. I DO NOT have combat logistics experience.

7. Where did you obtain your experience in retail logistics? (please mark all that apply)

a. Base level logistics plans
b. Base level maintenance
c. Base level procurement
d. Base level supply
e. Base level transportation
f. Other (please specify) _____
g. I DO NOT have retail logistics experience.

8. Where did you obtain your experience in wholesale logistics? (please mark all that apply)

a. Air Logistics Center
b. AFLC Headquarters
c. Defense Logistics Agency
d. General Services Administration
e. Other (please specify) _____
f. I DO NOT have wholesale logistics experience.

9. Have you ever had an assignment in an operational command?

a. Yes, as a civilian (please specify commands) _____
b. Yes, during prior military experience (please specify commands) _____
c. No

10. How many management/supervisory positions have you held?

a. One
b. Two
c. Three
d. Four or more
e. None

11. At what levels have you held staff positions? (please mark all that apply)

a. Branch
b. Division
c. Directorate
d. Headquarters (MAJCOM)
e. Headquarters (USAF, SAF)
f. Other (please specify) _____
g. I HAVE NOT held a staff position.

12. What percentage of your experience in management/supervisory and staff positions was in logistics? _____

13. How many times have you moved during your Air Force Civil Service career?

a. One
b. Two
c. Three
d. Four or more
e. I HAVE NOT moved

14. Do you have a Bachelors degree?

a. Yes (please specify major) _____
b. No

15. Do you have a Masters degree?

a. Yes (please specify major) _____
b. No

16. Have you taken any Professional Continuing Education (PCE) courses? (please mark all that apply)

a. Yes - at AFIT
b. Yes - at civilian institutions
c. No

17. Which of the following Professional Military Education (PME) courses have you completed? (please mark all that apply and specify "C" for courses you completed during your civil service career and "M" for courses you completed in the military)

a. _____ Squadron Officers School

b. _____ Air Command and Staff College (or equivalent)

c. _____ Industrial College of the Armed Forces

d. _____ Defense Systems Management Course

e. _____ Air War College (or equivalent)

f. _____ Other (please specify) _____

g. _____ I HAVE NOT completed any PME courses.

The next section asks questions about the professional qualities and characteristics you possess.

18. Which of the following statements describes your involvement in professional logistics organizations such as SOLE, NCMA, or Council of Logistics Management? (please mark all that apply)

a. I am a member of a professional logistics organization.
b. I am an active member of a professional logistics organization (attend most meetings and functions).
c. I have attended conferences or symposia sponsored by professional logistics organizations.
d. I have been a presenter, moderator, or panel leader professional logistics organization.
e. I DO NOT belong to any professional logistics organizations.

19. My level of technical competence in engineering is: (if you are highly competent in one engineering discipline you should mark "highly competent.")

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

20. My level of technical competence in logistics plans is:

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

21. My level of technical competence in maintenance is:

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

22. My level of technical competence in procurement is:

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

23. My level of technical competence in supply is:

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

24. My level of technical competence in system, item, or program management is: (If you are highly competent in system or item or program management you should mark "highly competent.")

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

25. My level of technical competence in transportation is:

1	2	3	4	5
Not Competent		Fairly Competent		Highly Competent

Prior research has suggested several personal qualities and professional skills are desirable in a senior logistician. The next two questions ask you to assess the level to which you personally possess these qualities and skills.

26. Given 100 points, please allocate them among the personal qualities listed below based on the relative degree to which you possess these characteristics. You may use zeros if appropriate.

Common Sense	_____
Communication	_____
Dedication	_____
Initiative	_____
Integrity	_____
Leadership	_____
Management	_____
Other _____	_____
TOTAL	= 100 points

27. Given 100 points, please allocate them among the following professional skills based on the relative degree to which you possess them. You may use zeros.

Analytical Techniques	_____
Job Knowledge	_____
Planning Ability	_____
Problem Solving/Systems Viewpoint	_____
Resourcing Ability (Programming, Budgeting, Allocating)	_____
Thorough Staff Work	_____
Other (specify) _____	_____
Other (specify) _____	_____
TOTAL	= 100 points

Do you have any comments to add? _____

_____

_____

_____

_____

_____

_____

Thank you for completing this survey and contributing to the success of this study. Please return this questionnaire in the self-addresses envelope provided. Please mail it today.

If you would like an executive summary of the results of this study, please enclose a separate sheet of paper with your name and address. Again, your individual answers will be kept confidential and will only be reported as aggregate data.

Appendix B: Evaluation Survey Comments

ID. Comment

6. Personal qualities go hand in hand, not necessarily on a scale of one higher than another. You must have some "common sense" to "communicate" at all levels. "Initiative" and "dedication" go hand in hand. You must earn respect to get "integrity" and if you're a good "manager" you usually have good "leadership" qualities.

8. I have had a thirty year career with the Air Force Systems Command as a physicist, program analyst and acquisition project specialist. It has been a most rewarding and fulfilling period. I consider it to be a symbiotic and synergistic relationship.

13. The strongest points, if not accurately reflected in my answers, that I possess and which have allowed me to progress steadily in the logistics world are: my dedication to getting any assigned job done and a willingness to learn from these jobs. Although my oral communication skills are lower than desired, my written correspondence and planning efforts make up the difference.

18. I believe that the key to the success of any logistics program is a team effort. To get all concerned working as a team, communication is of primary importance. My success has been through the clear communication of what is needed and expected from each organization and member of the team.

23. Success in this position is dependent on the many challenges this career offers and rewards that are available. I was fortunate in working for good managers, who recognized and rewarded initiatives and good work.

31. It is my contention that while we have good functional (i.e. supply, procurement, etc.) logistics managers, we have very few loggies who have a total view of ILS and how Acquisition and Logistics can and should complement each other and how it all comes together. I feel more effort needs to be given to developing this type of senior logistician.

35. The promotional process for logisticians at the ALC AFLC level places more emphasis on the supervisory capability of the person rather than on the person's logistics management record. In plain English, if professional logisticians have not had, nor been allowed the opportunity to combine supervisory courses/ experience with logistics training, that person's chances of progressing into management areas are

limited. Management, in its search for logisticians to promote into the management arena, will not seriously consider a person that has not been exposed to the challenges of a supervisory position. More supervisory courses need to be added to the logistician's career.

79. At the section and branch level it does not appear to be as important to be technically competent as to have management skill.

80. GS-12s should be allowed to enroll in Air War College as it used to be. I would very much like to attend but the rules have changed to where I cannot enroll as a GS-12.

111. The constant influx of new people, from upper management on down, makes it extremely difficult to formulate plans or policy. The new regime will invariably change directions. This is confusing to us and to the foreign customers we try to support.

127. Although education and experience are necessary, a great deal of initiative and common sense round out the best logistician. Being able to communicate is also essential.

144. Career advancement is primarily affected by who you know and suck up to. Logistics ability counts for very little. There is no real merit in merit promotion, especially if you are a white male.

167. The major weakness of the AF program is the lack of formal training. Reliance on OJT narrows the scope of the worker and hampers effectiveness. One does a better job if he understands why he does what he does and how he fits into the overall structure. To see where we fit, we need to understand the whole logistics world.

172. Per General Hansen, AFLC is and must be treated as an operational command or other operational commands will not sustain. AFIT students should learn this early on.

204. I believe that too much importance is placed on having a college degree. True, I wish I had a degree, but things just didn't work out. What I see happening is that very knowledgeable people who have a lot of experience in their job, but no college degree, are not even considered for certain management positions. So, a person who knows nothing about the supervisory position, or the type of work in the area, is hired as a supervisor and the person with all the knowledge and experience ends up training the supervisor. It just doesn't seem fair. I, personally, have no complaints. I've just seen it happen before.

214. International logistics depends heavily on your ability to communicate the customer's needs to the system and the system to the customer.

248. Ability to "see" the big picture is extremely important. This defines the why, what and how, and allows competent decisions.

253. Your development program should definitely place the logistician in a real world environment, i.e. active flying wing and Numbered Air Force and definitely MAJCOMs.

265. I have been fortunate to attend one AFIT course and two locally taught courses in my Civil Service career. These courses helped me to see the overall logistics picture as opposed to the ALC portion.

275. A good logistician will have at least a business degree in Management, Finance, or Accounting and some logistics job related experience. A college education is very important and essential for a logistician.

289. More latitude should be given to the logistician to master his/her trade through allowing GS-11/12s to attend classes at AFIT, through seminars and correspondence. Direct interface such as this will only help to maintain the high integrity necessary to the AF logistics world. TDY funds seem to dictate the need for appropriate classes instead of the furthering of quality logistics management, from an AF management point of view.

298. I believe experience and performance are equally as important if not more so than a college degree.

302. Each of the personal qualities are arguably important, i.e. "common sense" and "communication" determine "leadership" and "management" effectiveness.

373. The logistics management process requires superior reasoning and problem solving skills. For the past 15 years our public school systems, universities an AF courses have "short-changed" the student by using a teaching method geared to passing the test rather than understanding. A good course in reasoning skills and logic is a must in professional development.

Write-In Responses

ID.	Personal Qualities	Professional Skills
008.	Organizational cooperation Total quality management	Group interrelati... Communicating
078.	Background	-
151.	-	Relating to people
156.	-	Synthesize
204.	Work well with others	-
265.	Loyalty	Working with higher grades
269.	-	Teaching
295.	-	Priority recognition
324.	Creativity -	Selling ability Logic
338.	Meeting the mission	Accomplishing the ...
354.	-	Management
375.	-	Listening skills
400.	-	Creativity

Appendix C: Classification Survey

Hello. I'm Captain David West. I am an AFIT graduate student conducting Air Force research on professional development for logisticians.

I am interviewing deputy directors, division chiefs and civilian personnel office representatives at Headquarters Air Force Logistics Command and all the Air Logistics Centers in order to develop a list of civilian professional development activities. There are no right or wrong answers to these questions. I only need your honest, personal opinions. Your responses will be combined with all others and not attributed to you individually.

Will you take ten minutes to answer several questions for this research? May I tape record our interview to speed up my note taking?

I'll ask nine related questions to help you recall everything related to the topic. Here's the first question.

1. What Air Force or MAJCOM programs do you use in your directorate/division/base to promote professional development?

2. What portions of the Career Enhancement Plan (CEP) do you use to promote professional development?

3. What portions of the Logistics Civilian Career Enhancement Program (LCCEP) do you use to promote professional development?

4. What local initiatives do you use to promote professional development in your directorate/division/base?

5. What self-directed programs do members of your directorate/division/base use to promote professional development?

The following question is in three parts. I'll read the entire question first.

What other general activities do you use which promote professional development by increasing individual:

6. experience?
This may include assignments, advanced positions, and mobility.

7. education and training?
This may include college degrees, PCE, and PME.

8. professional attributes?
   This may include personal qualities, technical competence, and professional status.

9. Are there any other means of professional development which your organization uses?

If you are interested, I'll send you an executive summary of this survey. May I have your name and organizational address please? Thank you very much for your help in this research.

Appendix D: Classification Survey Data

Response Key:

1 to 7 : Directorate Level
8 to 12 : Division Level
13 to 19: Civilian Personnel Offices (Staffing or Training)

Question 1:

What Air Force or MAJCOM programs do you use in your directorate/division/base to promote professional development?

Responses:

1a. We use the Logistics Civilian Career Enhancement Program (LCCEP).

b. We also use individual courses available through the Air Force Institute of Technology (AFIT) and the Office of Personnel Management (OPM).

c. In addition, we take advantage of policies under the Maintenance Recruitment and Development Program (MRDP) which allow "developmental assignments" to and from Headquarters Air Force Logistics Command (HQ AFLC) and the Air Logistics Centers (ALCs).

d. Finally, we have the Pacer Impact program which is designed to innovate ways to increase productivity. Some of these innovations are in the area of professional development.

2a. We use individual courses available through AFIT and Equal Employment Opportunity (EEO)/ Administrative type classes.

b. We also use OPM Executive Management Leadership Seminars.

c. Finally, we use Long-Term Full-Time Training which is available to individuals if they are within one year of graduation. However, the lack of money means no overhires are available to backfill losses.

3a. We use career broadening, to USAFE and HQ USAF in particular, which are available through both individual desires and LCCEP.

b. We also use AFIT courses which are available to LCCEP registrants and non-registrants.

4a. We use the Palace Acquire program to conduct career broadening by sending a group of newly hired individuals, AFLC management interns, to HQ AFLC each year for a two year developmental program, after which time they return to the original ALC.

b. In addition, there are LCCEP and other LCCEP type programs for accounting and computer personnel.

5. We use all the education programs available through LCCEP for individuals from GS-12 through SES.

6. We use LCCEP.

7a. We use education opportunities available at the Defense Systems Management College (DSMC), the Fellowship programs at Harvard, Purdue and UCLA, and the TAC Leadership Course, all of which have participants selected by a central AF panel.

b. We also use LCCEP.

8. We use the Logistics Training Program (LSTP) developed for our division and other similar divisions throughout AFLC by HQ AFLC.

9a. We use AFIT courses.

b. We also use courses available through our local base training office such as management and effective writing courses.

10a. We use AFIT training and graduate programs.

b. We also use the OPM sponsored Western Executive Seminars taught in Denver.

11. We use courses available in the AFIT catalog, which are then paid for out of unit operations and maintenance money.

12. We use LCCEP.

13. We use all programs available from Randolph AFB/CPMC and as given in AFR 40-110.

14a. We use LCCEP education and assignment opportunities.

b. We also use Palace Acquire centralized hiring to implement the AFLC management intern program for individuals hired under schedule B appointment authority.

15. None in particular.

16. We use career programs such as LCCEP which are available for various career fields.

17. We use LCCEP.

18a. We use DSMC courses, which are paid for by HQ AFLC.

b. We also use the 26 available career programs, of which LCCEP is one. Individuals may register in as many career programs, for which they are qualified, as they wish.

19. None in particular.

Question 2:

What portions of the Career Enhancement Plan (CEP) do you use to promote professional development?

Responses:

1. We do not greatly use the CEP. We use other methods to identify needs and allocate training slots.

2a. It is important in ensuring people go to the right courses, for example, that we don't send them to LOG 224 or other introductory courses if they already have logistics experience.

b. We use it in conjunction with annual counselling, which actually takes place about every 18 months.

3. Individuals prepare their own forms. Weaknesses which they identify are met with LCCEP programs.

4. We use the CEP to build the 18 month training and education plan for career broadeners both within the directorate and between directorates.

5. We use the CEP because annual nomination packages for schools must include a CEP showing that the course is necessary.

6. None in particular.

7. None in particular.

8. The CEP does not have a big role for our division.

9. The CEP is used very little. It is useful for determining rotational moves to other directorates.

10. None in particular.

11. The CEP is used in different ways by separate offices to specify those types of courses which may be applicable.

12. The form itself is not widely used. We watch our performers closely within our own division.

13. We use the CEP as shown in AFR 40-410, Attachment 7. This includes filling out the CEP parts 1-3. These are required training, scheduled pipeline training, for example management systems training, and goals by position and grade.

14. We use the CEP as a guide and training plan.

15. The CEP is used for input data, with the course codes representing various academic subject areas. The data become part of the Air Force Civilian Personnel Management Center (AFCPMC) civilian personnel data system (PDS-C) and can then be used to identify logistics course requirements for any ALC or for AFLC as a whole.

16. None in particular.

17. We pass on data from the CEP to LCCEP at AFCPMC. Therefore, the responses should be well thought out and accurate.

18. The CEP plays a big role. It helps determine the needs of individuals in the field, and is the only tool we have to fill spaces for on site courses. We just sent 3500 copies throughout the ALC to our career program registrants, and they can each request up to seven courses using the CEP.

19. None in particular.

Question 3:

What portions of the Logistics Civilian Career Enhancement Program (LCCEP) do you use to promote professional development?

Responses:

1a. We primarily use the training opportunities available through LCCEP.

b. We also use career broadening assignments to the Air Staff, etc.

c. Finally, we promote cadre selection as a way to develop pride among logisticians.

2. AFIT courses are the most important part of LCCEP, but more quotas are needed. Currently, school slots are very competitive, with the majority going to cadre members. Wright-Patterson AFB has an advantage in getting courses due to their ability to fill classes with short notice and the reduced TDY funds required.

3. We primarily use the AFIT courses available through LCCEP.

4. We primarily use LCCEP to create and fill career broadening positions within the directorate.

5a. We use the education opportunities available primarily to LCCEP cadre.
b. We also use AFCPMC for worldwide assignments.

6. We primarily use courses available through LCCEP.

7. None in particular.

8. None in particular.

9. We use LCCEP primarily to get seminar slots for [illegible] courses which are available to cadre members.

10. We use LCCEP in order to qualify individuals for degree programs at state universities.

11. None in particular.

12. We use the AFIT and civilian institute one year programs available through LCCEP.

13. We primarily use courses available from OPM, such as their executive development series which includes stress management, time management, etc.

14a. We use the AFIT graduate logistics school's long and short courses which are available to LCCEP registrants.
b. We also use the two year reassignments for career broadening.

15. None in particular.

16a. We primarily use the graduate and undergraduate programs available through LCCEP.
b. We also use short courses available through LCCEP and listed in their FY90 Career Program Guide. These are often only general management type courses renamed to imply logistics. For example, one course is entitled "The Logistics of Managing Conflict."

17. We use all parts of the program.

18. We use all parts of the program, especially the training and career broadening opportunities.

19. We use the LCCEP cadre program to open training and assignment doors. External funding is the biggest advantage to this program.

Question 4:

What local initiatives do you use to promote professional development in your directorate/division based

Responses:

1a. We encourage participation in the American Production and Inventory Control Society (APICS).
b. We primarily look outside the Air Force to find programs which meet our needs, for example, in the area of Quality.

2a. We arrange for local, one-day courses on subjects such as computer skills and quality.
b. We exchange personnel from International Logistics Center (ILC) and Systems Coordinating Officers (SCOs) from the Logistics Operations Center to gain mutual understanding and benefits.

3a. We have a local career broadening program run by our Air Base Group personnel office (ABG/DP), which is tailored to GS-9 and above employees.
b. We also have an ALC wide panel consisting of deputy directors, which conducts competitive interviews to determine personnel changes necessary to meet career broadening and other organizational objectives. These personnel moves may be for either an indefinite period of time, or for a specified period of time with a follow-on return to the original directorate.

4a. We have implemented personnel exchanges within the directorate for career broadening.
b. We also use a program of executive seminars which we call the "logistics spectrum." These are mandatory briefings and seminars for all of our supervisors.

5. We are trying to develop an ALC wide board to identify career broadening positions and fill high number GM 13s and above into them.

6a. We have a contract with a state university for providing hardcore engineering courses for our technicians. This degree granting program lasts two years, for two days a week, using on duty time to grow our own engineers. (See response 11.)

b. We also have a contract with a community college to provide a mandatory "supervisor course" for new supervisors where they learn specific skills necessary for the [illegible]

7. We have developed a "mini Harvard" in conjunction with a state university to approximate the Fellowship [illegible] yet reduce the costs associated with lengthy TDYs to Harvard [illegible] schools.

8. We have local "career development panels" for each job series. The panel charters vary in intent, but generally have four goals. First, they compare local and [illegible] and modify the local structure to be compatible. Second, they provide career development opportunities for [illegible] individuals stuck in job series with limited upper grade levels. Third, they select managers for long term [illegible] with low quotas to insure that only the absolute best are recommended to deputy directors for nomination. Last, they insure that high potential individuals get the best appraisals.

9a. In order to meet our education needs we are developing a "university of maintenance." This [illegible] has included contracting with a state university to [illegible] skills survey of our managers to determine critical [illegible] skills and areas of weakness. A follow on contract will develop courses to address the findings of the survey. The "university" will have three schools for line [illegible] supervisor and leadership management, and will teach a combination of in house and contracted courses.

b. We have locally developed career paths for [illegible] series, which show education and training as the key [illegible] career.

c. We are developing an assessment center to [illegible] our managers through direct observation of their management skills.

d. Finally, we want to develop a mentor program [illegible]

10. We are in the second year of an AF Demo Project, Pacer Share, approved by Congress to evaluate alternative personnel management procedures. The project is [illegible] based on the gain share or the difference, with excess profits above the 1987 productivity and budget baseline distributed equally between the AF and individuals in the [illegible] This project has given us independence to [illegible] many innovations. (See response 10 to question [illegible] detailed programs.)

11a. We use locally developed procedures for career broadening between directorates.

b. We conduct off-site management retreats with guest speakers and seminars, at a local convention center.

12a. We stress Education With Industry (EWI), especially in positions working with our major contractors.

b. We encourage membership in a nearby APICS chapter, and last year took all deputy division chiefs to their annual meeting.

c. We contract with a local firm to provide seminars and consulting on innovative management techniques.

13. We use a locally developed training survey to determine our peoples needs for technically oriented training. Another program in the works which touches on professional development is Palace Automate, the integration of position descriptions, job analysis, and performance standards.

14a. We ensure that innovative logistician training is available in new areas whenever needed. We may develop the training in house or through a contractor or training development company.

b. We implement rotational assignments in maintenance through MRDP. Distribution has a similar program, and plans and programs has an exchange program with HQ AF.

15. A state university now provides a graduate degree program in logistics and a logistics education center in addition to its standard college courses.

16. A local university now provides us with a graduate logistics degree program.

17. Our deputy directors widely publicize and encourage LCCEP and other related activities.

18. We developed the Academic Program for Engineers and Scientists (TAPES). Individuals can take up to six graduate hours per semester at state universities toward a graduate-school degree.

19a. We use the 30 day Senior Leader Program conducted at a local university and modelled after the Harvard Federal Executive Institute Program.

b. We also have a local university with a logistics degree program.

c. Finally, our Career Advisory Board recommends high potential individuals for career broadening within the AL.

Question 5:

What self-directed programs do members of your directorate/division/base use to promote professional development?

Responses:

1a. They enroll in university courses in the local area.

b. They also participate in professional societies.

2. None in particular.

3. They pursue additional education. For example, engineers may return to college for a Master's degree in their applicable field. Individuals taking classes which are job related are eligible for some financial help.

4a. They primarily enroll in college courses which are taught here on base.

b. They also enroll in Squadron Officer School (SOS) and Air War College (AWC).

5. None in particular

6a. There is limited tuition assistance available for individual studies to earn an applicable graduate degree.

b. We also give shift preference to those individuals who take the initiative, since most graduate courses are still taught during day shift.

7. They primarily enroll in local colleges and universities. Their motivation is normally to receive a Masters degree since most already have a Bachelor's.

8. None in particular.

9. None in particular.

10. Associates use the learning centers which have a variety of film and video libraries in the directorate for self-study, on subjects such as Just In Time (JIT) scheduling, material delivery, etc.

11. Individuals participate in a logistics degree-granting program offered by a state university.

12a. We encourage graduate and undergraduate program involvement with state universities.

b. Individuals also participate in the FMA or Base Management Association which provides one day on base seminars.

c. Individuals can also receive credit for participating in the speaker's bureau, where they will be called on to brief their areas of expertise to on and off base agencies requesting briefings.

13a. They enroll in ECI correspondence courses.

b. They enroll in local universities.

c. They also participate in the Society of Logistics Engineers (SOLE).

14a. Many individuals take advantage of college [illegible] programs available through private and state universities.

b. They also enroll in correspondence programs from Air University.

15a. Individuals enroll in college degree programs.

b. They also participate in Toastmasters.

16. We provide Tuition Assistance (TA) and [illegible] to encourage individual participation in college courses in job related fields. TA is limited to $100 for three credit courses, $125 for four credit courses, and $150 for five credit courses.

17. We encourage individuals to prepare themselves for LCCEP cadre, before they get to the GS/M-12 and 13 level, through self-directed local education opportunities.

18. These programs are very informal, but there is a lot of opportunities. Individuals can earn academic credit for college courses taught on the local public television station, join one of the approximately ten Toastmasters chapters which meet on base, or participate in the Base Management Association.

19. Individuals may participate in local university correspondence courses.

Question 6:

What other general activities do you use which promote professional development by increasing individual experience? This may include assignments, advanced positions, and mobility.

Responses:

1a. We use "Director's Calls" to give our civilian project officers experience through briefing their programs to senior leaders.

b. Our directorate's Civilian Policy Board works all civilian issues to include submitting individuals for education opportunities and awards, and making individual career broadening assignments within the directorate.

2a. We use career broadening by having Senior Executive Service (SES) individuals designate positions as career broadening positions and having LCCEP fill them.

b. We also send our Schedule B employees to Air Logistics Centers (ALCs) after three months at HQ AFLC, and have them return to the HQ at the two year point.

3. We strongly encourage individuals to gain additional experience, and may sometimes twist their arms to be mobile.

4. We interchange individuals between directorates for a period of 18 months. This program is primarily for interested high-burner GS/M-12s within the maintenance and material management directorates.

5. We use an executive development board for our directorate, which is composed of deputy division chiefs. They choose individuals for career broadening, training and education within the directorate. This board allows resources of all divisions to be used.

6. We only use rotational assignments in a very limited manner because we are short of personnel in most areas.

7. None in particular.

8. We use career broadening to increase experience. This includes pushing our managers to register in LCCEP and compete for cadre.

9. We use career broadening between directorates for our high burners.

10a. We use DX3, which is a pay band for all GS M-13s and GS/M-14s. Thus, individuals have a doubled range of possible positions available and can gain greater experience and professional development.

b. We also use job series consolidation and are down to only four job series within the directorate. Plans and job series proficiency guides are still available and vital for specific training.

11. We use LCCEP career broadening opportunities.

12. Rotational assignments within the division are done in a very limited manner.

13a. We use the Education With Industry (EWI) program by nominating individuals every year.

b. We also use the Office of the Assistant Secretary of Defense (OASD) program by nominating individuals every year.

14. We help management fill positions. This is especially important in areas such as the Contract Maintenance Support Centers, where positions rotate quickly in order to avoid possible conflicts of interest.

15. Rotational assignments and other reassignments are still used but no longer as extensively as in the past.

16. We use AFCPMC annually advertised career broadening programs for LCCEP and other program registrants. These include nine month broadening assignments with industry and assignments to HQ USAF.

17. We use LCCEP career broadening, especially for our single weapons system item managers who would otherwise receive very little broadening experience.

18. Although not normally thought of as career broadening, we sometimes benefit from individuals who cross train from job series with limited promotion potential.

19. We use reassignments to increase experience.

Question 7:

What other general activities do you use which promote professional development by increasing individual education/training?

This may include college degrees, Professional Continuing Education (PCE), and Professional Military Education (PME).

Responses:

1. None in particular.

2. None in particular.

3. We encourage job related training.

4. None in particular.

5. None in particular.

6. None in particular.

7. None in particular.

8. We encourage local training opportunities available through LCCEP.

9a. All supervisors attend mandatory supervisory refresher training once a year.
b. We provide and schedule individuals for courses in Manufacturing Resource Planning (MRP II).

10a. We provide mandatory team building training and seminars every two months.
b. We also provide training in the following disciplines: industrial engineering, strategic planning, essential process management, structure analysis, process analysis, quality, etc.
c. Local courses are taught on communications, coaching, and managerial ethics, with books by Strivasta and Pastin.
d. Since industrial engineers are hard to find, we hire electrical engineers, etc. and train them.

11. We use LSTP standard courses, in topics such as reliability and maintainability or warranties.

12. None in particular.

13. We approve funding for job related college courses.

14. None in particular.

15. We use Type IV mobile classes which can be taught locally.

16. None in particular.

17. Individuals may require extensive counselling and qualifications training in order to make them eligible for positions of career broadening.

18a. We have arranged to have a large number of local university courses taught on base during noon time and immediately after work hours in order to make them more convenient.

b. We received a large number of slots for ACSC last year in AFLC and were not able to fill all of them.

19. None in particular.

Question 8:

What other general activities do you use which promote professional development by increasing individual professional attributes?

This may include personal qualities, technical competence, professional skills and professional status.

Responses:

1. None in particular.

2. We use participation in Professional Military Education (PME), Society of Logistics Engineers (SOLE), Air Force Association (AFA), League of Women (LOW), and engineering societies. We strongly encourage these activities if they are job related.

3. If a good person can't present him/herself well, we counsel and work with the individual to help them interview and compete successfully.

4. We encourage participation in AFA, the Federal Managers Association (FMA), and the Federal Executive Association (FEA).

5. None in particular.

6a. We encourage participation in the many local professional organizations, such as Toastmasters for public speaking, and engineering, production control and quality societies.

b. In addition, we have a directorate membership in the American Production and Inventory Control Society (APICS). This allows everyone in the division who [illegible] attend meetings and receive the APICS magazine at no cost.

7a. We encourage individuals to participate in the Base Management Association, which is open to all, GS-9 and above.

b. We also have the Federal Management Association (FMA) for individuals GS/M-12 and above. The FMA conducts regular one day leadership seminars on such topics as personnel law, ethics and whistleblowers, etc.

8. None in particular.

9a. We encourage individuals to read technical papers from APICS and study for professional certification through APICS.

b. We also encourage individuals to join and participate in AFA and SOLE.

10. No personnel appraisals are used under Pacer Share.

11. We encourage participation in local clubs and AFA.

12. None in particular.

13. In addition to SOLE, we use participation in the National Contract Management Association (NCMA), International Personnel Management Association (IPMA) and others.

14a. Individuals must initiate these activities for the most part. AFA and Toastmasters are well known.

b. In addition, community involvement is particularly encouraged under the current leadership.

15a. The courses at Hurlburt Field in foreign country orientation and cross cultural communications teach professional skills.

b. The AFLC Senior Logistician Orientation course also teaches professional skills.

16. We have a speaker's bureau through our Public Affairs Office.

17. We encourage involvement in professional societies and EWI as ways to sharpen professional skills.

18. We encourage professional certification through engineering societies and the National Contract Management Association (NCMA) for engineers and procurement specialists, respectively.

19a. We encourage participation in engineering societies, the base management association and the speaker's bureau.

b. In addition, local political and community involvement is highly regarded as a way to improve professional attributes.

Question 9:

Are there any other means of professional development which your organization uses?

Responses:

1. None in particular. Comment: Overall program suffers from a lack of educational courses and low quotas for these courses. We should conduct in-depth training every two years for people with high potential and put a greater emphasis on education.

2. None in particular. Comment: Individuals must show initiative in their career development to make it work.

3. None in particular. Comment: Individual development of the true qualities of a professional needs to be stressed more. This begins with supervisors doing their duty by providing counselling to improve their subordinates professional behaviors.

4. None in particular.

5. None in particular.

6. None in particular. Comment: Most courses available through LCCEP are too management generic and too general to be useful. We developed our own programs to meet this weakness.

7. None in particular.

8. None in particular.

9. None in particular. Comment: All supervisors must be available personally to work with their subordinates. Supervisors provide true professional development by recognizing and correcting weaknesses in their subordinates.

10. None in particular.

11. None in particular. Comment: LCCEP cadre selection process is capricious. Only those individuals selected get a lot of career development activity. Also, career broadening may take our best people away. Finally, the AFIT catalog does not promote its courses well.

12. None in particular. Comment: We are a business. Our management style is not significantly different from private businesses, therefore we go to private companies for training. They have better training resources than we have in house.

13. None in particular. Comment: Instead of more soft courses, stress management for example, we need more hard

skills to increase technical competence on the job. If people knew how to do their jobs they would have less stress.

14. None in particular.

15. Some limited funds are available to buy training for developmental courses in logistics in either technical or management areas, as requested by the field.

16. None in particular.

17. None in particular. Comment: It is important for us to enhance the image of LCCEP. Some possibilities are Palace briefings, official recognition of cadre members, awards programs, etc.

18. None in particular.

19. None in particular.

Appendix E: Classification Survey Coded Data

Response Number Key

First Digit (1-9)	- survey question number
Second and Third Digit (01-19)	- respondent number
Fourth Digit (1-9)	- response subpart

Coded Responses Key

1.1 - Assignments in Logistics	3.1 - Personal Qualities
1.2 - Advanced Positions	3.2 - Technical Competence
1.3 - Geographic Mobility	3.3 - Professional Skills
2.1 - College Degree	3.4 - Professional Involv.
2.2 - PCE	4.0 - No Specific Response
2.3 - PME	0.0 - No Response

RESPONSE NUMBER	CODED RESPONSES			
1011	4.0			
1012	2.2	3.1	3.2	3.3
1013	1.1	1.2	1.3	3.3
1014	4.0			
1021	2.2	3.2	3.3	
1022	2.2	3.1		
1023	2.1	3.2		
1031	1.1	1.2	1.3	3.3
1032	2.2	3.2	3.3	
1041	1.1	1.2	1.3	3.3
1042	4.0			
1051	2.1	2.2	3.2	3.3
1061	4.0			
1071	2.2	3.1		
1072	4.0			
1081	3.2			
1091	2.2	3.2	3.3	
1092	2.3			
1101	2.3	3.2	3.3	
1102	2.2	3.1	3.3	
1111	2.2	3.2	3.3	
1121	4.0			
1131	4.0			
1141	4.3			
1142	1.1	1.2	1.3	3.3
1151	0.0			
1161	4.0			

1171	4.0			
1181	2.2	3.1	3.3	
1182	4.0			
1191	0.0			
2011	0.0			
2021	2.2	3.2	3.3	
2022	3.3			
2031	4.0			
2041	2.2	3.2	3.3	
2051	2.1	2.2	3.2	3.3
2061	0.0			
2071	0.0			
2081	0.0			
2091	1.1	3.2		
2101	0.0			
2111	2.2	3.2	3.3	
2121	0.0			
2131	1.2	2.2	3.2	3.3
2141	4.0			
2151	2.2	3.2	3.3	
2161	0.0			
2171	4.0			
2181	2.2	3.2	3.3	
2191	0.0			
3011	2.1	2.2	3.2	3.3
3012	1.1	1.2	1.3	3.2
3013	4.0			
3021	2.2	3.2	3.3	
3031	2.2	3.2	3.3	
3041	1.1	1.2	3.2	
3051	2.1	2.2	3.2	
3052	1.1	1.3	3.2	3.3
3061	2.2	3.1	3.2	
3071	0.0			
3081	0.0			
3091	2.2	3.1		
3101	2.1	3.2		
3111	0.0			
3121	2.1	2.2	3.2	3.3
3131	2.2	3.1		
3141	2.1	2.2	3.2	3.3
3142	1.1	1.3	3.2	
3151	0.0			
3161	2.1	3.2	3.3	
3162	2.2	3.1		
3171	4.0			
3181	4.0			
3191	4.0			
4011	3.2	3.4		
4012	3.3	3.1		
4021	3.3			
4022	1.1	3.2		

4031	1.1	3.2		
4032	1.1	3.2		
4041	1.1	3.2		
4042	3.3			
4051	1.1	1.2		
4061	2.1	3.2		
4062	3.1	3.3		
4071	3.2	3.1		
4081	1.1	2.1	3.2	3.1
4091	3.2	3.3		
4092	4.0			
4093	3.1			
4094	4.0			
4101	4.0			
4111	1.1	3.2		
4112	3.1	3.3		
4121	1.1	1.3	3.2	1.1
4122	3.2	3.4		
4123	3.1	3.3		
4131	1.1	2.1	3.2	1.2
4141	3.2	3.3		
4142	1.1	1.2	1.3	1.1
4151	2.1	3.2	3.3	
4161	2.1	3.2	3.3	
4171	4.0			
4181	2.1	3.3		
4191	2.2	3.1		
4192	2.1	3.2	3.3	
4193	1.1	3.2		
5011	2.1	3.2	3.3	
5012	3.4			
5021	0.0			
5031	2.1	3.2	3.3	
5041	2.1	3.2	3.3	
5042	2.3	3.1	3.3	
5051	0.0			
5061	2.1	3.2	3.3	
5062	2.1	3.2	3.3	
5071	2.1	3.2	3.3	
5081	0.0			
5091	0.0			
5101	3.1	3.2	3.3	
5111	2.1	3.2	3.3	
5121	2.1	3.2	3.3	
5122	3.1	3.3		
5123	3.1	3.3		
5131	2.2	2.3	3.1	3.1
5132	2.1	3.2	3.3	
5133	3.2	3.4		
5141	2.1	3.2	3.3	
5142	2.2	2.3	3.1	3.1
5151	2.1	3.2	3.3	

5152	3.1	3.3		
5161	2.1	3.0	3.0	
5171	2.1	3.0	3.0	
5181	2.1	3.0	3.0	
5191	2.1	3.0	3.3	
6011	3.1	3.3		
6012	4.0			
6021	1.1	1.0	1.0	
6022	1.1	1.0	1.0	3.1
6031	1.1	1.0	3.0	
6041	1.1	1.0	3.0	
6051	4.0			
6061	1.1	3.0		
6071	0.0			
6081	1.1	1.0	3.0	
6091	1.1	1.0	3.0	
6101	1.1	1.0	3.0	
6102	1.1	3.0		
6111	1.1	1.0		
6121	1.1			
6131	1.1	1.3	3.0	3.1
6132	1.1	1.0	1.3	3.1
6141	1.1	1.0	1.3	1.1
6151	1.1	3.0		
6161	1.1	1.0	1.3	1.1
6171	1.1	3.0		
6181	1.1	3.0		
6191	1.1	3.0		
7011	0.0			
7021	0.0			
7031	2.2	3.0		
7041	0.0			
7051	0.0			
7061	0.0			
7071	0.0			
7081	2.1	2.2	3.2	1.3
7091	3.1	3.3		
7092	3.2			
7101	3.1	3.3		
7102	3.2			
7103	3.1			
7104	2.1	2.2	3.2	
7111	3.2			
7121	0.0			
7131	2.1	3.2	3.3	
7141	0.0			
7151	2.2	3.2	3.3	
7161	0.0			
7171	4.0			
7181	2.1	3.2	3.3	
7182	2.3	3.2	3.3	
7191	4.0			

8011	0.0			
8021	3.3	3.1	3.4	
8031	3.1			
8041	3.1	3.3		
8051	0.0			
8061	3.1	3.3	3.4	
8062	3.2	3.4		
8071	3.1	3.3		
8072	3.1	3.3		
8081	0.0			
8091	3.2	3.4		
8092	3.2	3.3	3.4	
8101	3.1			
8111	3.1	3.3		
8121	0.0			
8131	3.2	3.3	3.4	
8141	3.1	3.3		
8142	3.1			
8151	3.3			
8152	3.2	3.3	3.3	
8161	3.1	3.3		
8171	1.1	1.3	3.3	3
8181	3.2	3.3	3.4	
8191	3.1	3.2	3.3	3.4
8192	3.1			
9011	0.0			
9021	0.0			
9031	3.1			
9041	0.0			
9051	0.0			
9061	3.1	3.3	3.3	
9071	0.0			
9081	0.0			
9091	3.1			
9101	0.0			
9111	0.0			
9121	3.3			
9131	3.3			
9141	0.0			
9151	3.2	3.3		
9161	0.0			
9171	4.3			
9181	0.0			
9191	0.0			

Appendix F: Evaluation SPSSx Programs

```
Set             Width=80
Title           'Mid-Level Civilian Logisticians
File Handle     Data/Name='data'
Data List       File=data NOTABLE Records=2/
                1 ID 1-3 MajCom 5 Base 7-8 JobSer 10-13 MilTen
                15 AcqLog 17 IntLog 19 ComLog 21 RetLog 23
                WhoLog 25 OprCom 27 MgtSup 29 StafEx 31 TotLog
                33-35 Mobile 37 BacDeg 39 MasDeg 41 PhD 43 EMB
                45 PloMem 47 PloAtt 49 PloPar 51 TcEngn 53
                TcLogP 55 TcMain 57 TcProc 59 TcSupp 61 TcSyst
                63 TcTran 65/

                2 ComSen 5-7 Commun 9-11 Dedicn 13-15 Initiv
                17-19 Integr 21-23 Ldrshp 25-27 Mngmnt 29-31
                OthQ 33-35 Analyt 37-39 JobKnc 41-43 PlanAbl
                45-47 ProbSo 49-51 Resour 53-55 StfWrk 57-59
                OthSk1 61-63 OthSk2 65-67

Value Labels
                MajCom 1 'AFLC' 2 'AFSC' 3 'USAF'
                       4 'Using Command' 5 'Other'
                       7 'Incorrect General Skill'
                       8 'Correct General Skill, Not Returned'
                       9 'Correct General Skill, Incomplete'
                       0 'Correct General Skill, Undelivered'/
                Base   1 'Wright Patt' 2 'Kelly' 3 'Tinker'
                       4 'Hill' 5 'McClellan' 7 'Robins'
                       8 'Hanscom' 9 'Los Angeles' 10 'USAFA'
                       11 'APO NY' 12 'APO SF' 99 'Other'/
                MilSer 0 'None' 1 '5 or less' 2 '6-10'
                       '11-15' 4 '16-20' 5 '21 or more'/
                AcqLog 1 'Acquisition Logistics Experience'
                       0 'No Experience'/
                IntLog 1 'International Logistics Experience'
                       0 'No Experience'/
                ComLog 1 'Combat Logistics Experience'
                       0 'No Experience'/
                RetLog 1 'Retail Logistics Experience'
                       0 'No Experience'/
                WhoLog 1 'Wholesale Logistics Experience'
                       0 'No Experience'/
                OprCom 1 'Operational Command Experience'
                       0 'No Experience'/
                MgtSup 1 'Management/Supervisory Experience'
                       0 'No Experience'/
                StafEx 1 'Branch' 2 'Division' 3 'Directorate'
                       4 'MAJCOM HQ' 5 'USAF HQ' 6 'Other'
                       7 'None'/
```

```
                Mobile 1 'One Move' 2 'Two Moves' 3 'Three
                       Moves' 4 'Four or more Moves' 5 'No
                       Moves'/
                BacDeg 1 'Degree Complete'
                       0 'No Degree'/
                MasDeg 1 'Degree Complete'
                       0 'No Degree'/
                PCE    1 'AFIT' 2 'Civilian Institute'
                       'Both' 4 'None'/
                PME    1 'PME Complete'/
                PloMem 1 'Active Member'/
                PloAtt 1 'Conference or Symposia Attendee'
                PloPar 1 'Presenter_Moderator_Panel' Level
                TcEngn to TcTran 1 'Not Competent' 2 'Level
                       3 'Fairly Competent' 4 'Level 4
                       5 'Highly Competent'/

Variable Labels
                ID     'Respondent number'/
                MajCom 'Current Major Command'
                Base   'Current Duty Station'/
                JobSer 'Current Job Series'/
                MilSer 'Years of Prior Military Service'
                AcqLog 'Acquisition Logistics'/
                IntLog 'International Logistics'
                ComLog 'Combat Logistics'/
                RetLog 'Retail Logistics'/
                WhoLog 'Wholesale Logistics'/
                OprCom 'Operational Command'/
                MgtSup 'Management and Supervision Positions'
                StafEx 'Level of Staff Position'
                PctLog 'Percent Mgt_Staff Experience in Log'
                Mobile 'Number of Geographical Moves'
                BacDeg 'Bachelors Degree'/
                MasDeg 'Masters Degree'/
                PCE    'Professional Continuing Education
                       Type'/
                PME    'Professional Military Education'
                PloMem 'Professional Logistics Organization'
                PloAtt 'Professional Logistics Organization'
                PloPar 'Professional Logistics Organization'
                TcEngn 'Technical Competence in Engineering
                TcLogP 'Technical Competence in Logistics
                       Plans'/
                TcMain 'Technical Competence in Maintenance'
                TcProc 'Technical Competence in Procurement'
                TcSupp 'Technical Competence in Supply'
                TcSysM 'Tech Comp in System_Item_Program Mgt
                TcTran 'Technical Competence in
                       Transportation'
                ComSen 'Common Sense'/
                Commun 'Communication'/
```

```
                Dedict 'Dedication'/
                Initve 'Initiative'/
                Integr 'Integrity '/
                Ldrshp 'Leadership'/
                Mngmnt 'Management'/
                OthQ   'Other Personal Qualities'/
                Analyt 'Analytical Techniques'/
                JobKno 'Job Knowledge'/
                PlanAb 'Planning Ability'/
                ProbSo 'Problem So  .ng_Systems Viewp  .t'
                Resour 'Resourcing Ability'/
                StfWrk 'Thorough Staff Work'/
                OthSk1 'Other Professional Skills'
                OthSk2 'Other Professional Skills'/

DO IF           (AcqLog EQ 1)
COMPUTE         ACQLOGSC=3.8
ELSE
COMPUTE         ACQLOGSC=0
END IF
DO IF           (IntLog EQ 1)
COMPUTE         INTLOGSC=1.6
ELSE
COMPUTE         INTLOGSC=0
END IF
DO IF           (ComLog EQ 1)
COMPUTE         COMLOGSC=2.3
ELSE
COMPUTE         COMLOGSC=0
END IF
DO IF           (RetLog EQ 1)
COMPUTE         RETLOGSC=2.6
ELSE
COMPUTE         RETLOGSC=0
END IF
DO IF           (WhoLog EQ 1)
COMPUTE         WHOLOGSC=5.2
ELSE
COMPUTE         WHOLOGSC=0
END IF
DO IF           (OprCim EQ 1)
COMPUTE         OPRCOMSC=3.4
ELSE
COMPUTE         OPRCOMSC=0
END IF
DO IF           (WhoLog EQ 1 AND (AcqLog + IntLog + ComL
                + RetLog GE 1))
COMPUTE         ASSLOGSC = OPRCOMSC + 15.5
ELSE
COMPUTE         ASSLOGSC = OPRCOMSC + ACQLOGSC + INTL
                + COMLOGSC + RETLOGSC
END IF
```

```
DO IF          (MgtSup EQ 1 AND PotLog GE 70)
COMPUTE        MGTSUPSC=8.7
ELSE
COMPUTE        MGTSUPSC=0
END IF
DO IF          (StafEx GE 2 AND StafEx LE 5 AND PotLog
COMPUTE        STAFEXSC=5.1
ELSE
COMPUTE        STAFEXSC=0
END IF
COMPUTE        ADVPOSSC = MGTSUPSC + STAFEXSC
DO IF          (Mobile GE 2 AND Mobile LE 4)
COMPUTE        MOBILESC=7.3
ELSE
COMPUTE        MOBILESC=0
END IF
COMPUTE        EXPSCO = ASSLOGSC + ADVPOSSC + MOBILESC
DO IF          (BacDeg EQ 1)
COMPUTE        BACDEGSC=6.9
ELSE
COMPUTE        BACDEGSC=0
END IF
DO IF          (MasDeg EQ 1)
COMPUTE        MASDEGSC=5.2
ELSE
COMPUTE        MASDEGSC=0
END IF
COMPUTE        ADVDEGSC = MASDEGSC + BACDEGSC
DO IF          (PCE LE 3)
COMPUTE        PCESC=8.5
ELSE
COMPUTE        PCESC=0
END IF
DO IF          (PME EQ 1)
COMPUTE        PMESC=4.7
ELSE
COMPUTE        PMESC=0
END IF
COMPUTE        EDUSCO = ADVDEGSC + PCESC + PMESC
DO IF          (PloMem EQ 1)
COMPUTE        PLOMEMSC=1.7
ELSE
COMPUTE        PLOMEMSC=0
END IF
DO IF          (PloAtt EQ 1)
COMPUTE        PLOATTSC=0.8
ELSE
COMPUTE        PLOATTSC=0
END IF
DO IF          (PloPar EQ 1)
COMPUTE        PLOPARSC=1.6
ELSE
```

```
COMPUTE         PLOPARSC=0
END IF
COMPUTE         PLOSC = PLOMEMSC + PLOATTSC + PLOPARSC
DO IF           (TcEngn GE 3)
COMPUTE         TCENGNSC=1.5
COMPUTE         E=1
ELSE
COMPUTE         TCENGNSC=0
COMPUTE         E=0
END IF
DO IF           (TcLogP GE 3)
COMPUTE         TCLOGPSC=1.4
COMPUTE         L=1
ELSE
COMPUTE         TCLOGPSC=0
COMPUTE         L=0
END IF
DO IF           (TcMain GE 3)
COMPUTE         TCMAINSC=1.7
COMPUTE         M=1
ELSE
COMPUTE         TCMAINSC=0
COMPUTE         M=0
END IF
DO IF           (TcProc GE 3)
COMPUTE         TCPROCSC=1.4
COMPUTE         P=1
ELSE
COMPUTE         TCPROCSC=0
COMPUTE         P=0
END IF
DO IF           (TcSupp GE 3)
COMPUTE         TCSUPPSC=1.3
COMPUTE         S=1
ELSE
COMPUTE         TCSUPPSC=0
COMPUTE         S=0
END IF
DO IF           (TcSysM GE 3)
COMPUTE         TCSYSMSC=2.6
ELSE
COMPUTE         TCSYSMSC=0
END IF
DO IF           (TcTran GE 3)
COMPUTE         TCTRANSC=1.0
COMPUTE         T=1
ELSE
COMPUTE         TCTRANSC=0
COMPUTE         T=0
END IF
DO IF           (TcSysM GE 3 AND (T + M + S + P + L + E GE 1
COMPUTE         TCSC=10.9
```

```
ELSE
COMPUTE         TCSC = TCENGNSC + TCLOGPSC + TCMAINSC +
                TCPROCSC + TCSUPPSC + TCSYSMSC +
                TCTRANSC
END IF
DO IF           (ComSen GE 17)
COMPUTE         COMSENSC=1.4
ELSE
COMPUTE         COMSENSC=0
END IF
DO IF           (Commun GE 14)
COMPUTE         COMMUNSC=1.9
ELSE
COMPUTE         COMMUNSC=0
END IF
DO IF           (Dedict GE 14)
COMPUTE         DEDICTSC=1.1
ELSE
COMPUTE         DEDICTSC=0
END IF
DO IF           (Initve GE 14)
COMPUTE         INITVESC=1.5
ELSE
COMPUTE         INITVESC=0
END IF
DO IF           (Integr GE 16)
COMPUTE         INTEGRSC=2.0
ELSE
COMPUTE         INTEGRSC=0
END IF
DO IF           (Ldrshp GE 14)
COMPUTE         LDRSHPSC=2.4
ELSE
COMPUTE         LDRSHPSC=0
END IF
DO IF           (Mngmnt GE 13)
COMPUTE         MNGMNTSC=1.3
ELSE
COMPUTE         MNGMNTSC=0
END IF
COMPUTE         QUALSC = COMSENSC + COMMUNSC + DEDICTSC
                       + INITVESC + INTEGRSC + LDRSHPSC +
                         MNGMNTSC
DO IF           (OthQ GE 1 AND QUALSC LE 10.5)
COMPUTE         TQUALSC = QUALSC + 1
ELSE
COMPUTE         TQUALSC = QUALSC
END IF
DO IF           (Analyt GE 15)
COMPUTE         ANALYTSC=1.1
ELSE
COMPUTE         ANALYTSC=0
```

```
END IF
DO IF           (JobKno GE 23)
COMPUTE         JOBKNOSC=2.1
ELSE
COMPUTE         JOBKNOSC=0
END IF
DO IF           (PlanAb GE 19)
COMPUTE         PLANABSC=1.3
ELSE
COMPUTE         PLANABSC=0
END IF
DO IF           (ProbSo GE 19)
COMPUTE         PROBSOSC=1.7
ELSE
COMPUTE         PROBSOSC=0
END IF
DO IF           (Resour GE 13)
COMPUTE         RESOURSC=1.3
ELSE
COMPUTE         RESOURSC=0
END IF
DO IF           (StfWrk GE 13)
COMPUTE         STFWRKSC=1.0
ELSE
COMPUTE         STFWRKSC=0
END IF
COMPUTE         SKILSC = ANALYTSC + JOBKNOSC + PLANABSC
                + PROBSOSC + RESOURSC + STFWRKSC
DO IF           (OthSkl GE 1 AND SKILSC LE 7.9)
COMPUTE         TSKILSC = SKILSC + 1
ELSE
COMPUTE         TSKILSC = SKILSC
END IF
COMPUTE         PATSCO = PLOSC + TCSC + TQUALSC +TSKILSC
COMPUTE         MODELSCO = EXPSCO + EDUSCO + PATSCO
File Handle     Modelinf/Name='ModelInf'
XSave           OutFile=ModelInf
Execute
Finish
```

```
Set             Width=80
Title           'Mid-Level Civilian Logisticians'
File Handle     Data/Name='data'
Data List       File=data NOTABLE Records=2/
                1 ID 1-3 MajCom 5 Base 7-9 JobSer 11-13 MilCer
                15 AcqLog 17 IntLog 19 ComLog 21 RetLog 23
                whoLog 25 OprCom 27 MgtSup 29 SeaEx 31 PerLog
                33-35 Mobile 37 BacDeg 39 MasDeg 41 PhD 43 TMS
                45 PloMem 47 PloAtt 49 PloPar 51 TcEngr 53
                TcLogP 55 TcMain 57 TcProc 59 TcSupp 61 TcOpAn
                63 TcTran 65/

                2 ComSen 5-7 Commun 9-11 Dedica 13-15 Initiv
                17-19 Integr 21-23 Ldrshp 25-27 Mngmnt 29-31
                OthQ 33-35 Analyt 37-39 JobKno 41-43 PlanAb
                45-47 ProbSo 49-51 Resour 53-55 StfWrk 57-59
                OthSk1 61-63 OthSk2 65-67

Do If           MajCom LE 6 AND MajCom GE 1
Compute         MajCom = 6
End If
Means
  Tables = ID by MajCom

Means
  Tables = ComSen to StfWrk by OthSk2

File Handle     ModelInf/Name='ModInf'
xsave           outfile=ModInf
execute
finish
```

```
Set                 Width = 80
Title               'Mid Level Civilian Logistician'
File Handle         ModelInf/Name='ModelInf'
Get                 File=ModelInf
Sort                Cases by MODELSCO (D)

Print /             ID JobSer   MODELSCO EXPSCO   EDUSCO   PATSCO

Execute
Print /             ID ASSLOGSC ADVPOSSC MOBILESC ADVDEGSC PCESC
                       PMESC    PLOSC    TCSC     TQUALSC
                       TSKILSC
Execute
Temporary
Condescriptive      MODELSCO EXPSCO   EDUSCO   PATSCO   ASSLOGSC
                    ADVPOSSC MOBILESC ADVDEGSC PCESC    PMESC
                    PLOSC    TCSC     TQUALSC  TSKILSC  MGTSUPSC
                    STAFEXSC
Temporary
Condescriptive      ComSen Commun Dedict Initve Integr Ldrshp
                    Mngmnt Anal/L JobKno PlanAb ProbSl Resrch
                    StfWrk
Temporary
Frequencies         Variables =  AcqLog IntLog ComLog RetLog
                                 WhoLog OprCom MgtSup StafEn
                                 PctLog Mobile BacDeg MasDeg
                                 PCE    PME    PloMem PloAtt
                                 PloPar TcEngn TcLogP TcMain
                                 TcPrin TcSupp TcSysM TcTran

Finish
```

Bibliography

Beals, Capt John K. The Next Generation Senior Military Logistician: An Empirical Study of United States Air Force Lieutenant Colonels. MS Thesis, AFIT/GLM/LSM/87S-3. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1987 (AD-A186924).

Dennis Betty J. and Donna J. Stoffer. Defense Logistics Agency Supervisory, Managerial and Executive Training Needs Analysis Report. DLA/CPSSO, Columbus OH. 29 October 1987 (AD-A198156).

Department of the Air Force. Logistics Civilian Career Enhancement Program (LCCEP). AFR 40-110, Volume IV. Washington: HQ USAF, 25 September 1984.

-----. LCCEP Master Development Plan. LCCEP Career Development Panel Brochure. Washington: Government Printing Office, 1987.

Fox, Rita. "LCCEP Training and the Logistician," Air Force Journal of Logistics, 13: 10-11 (Spring 1989).

Gorman, Capt Frank. A Proposed Logistics Career Development Model. MS Thesis, AFIT/GLM/LSM/86S-27. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1986 (AD-A174533).

Gregor, Capt Ralinda B. A Normative Model of the Ideal Qualities, Characteristics, and Background of the Senior Air Force Civilian Logistician. MS Thesis, AFIT/GLM/LSM/88S-27. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1988.

Klotz, Ambrose. Career Development of Managers and Executives. Center for Naval Analyses, Alexandria VA, June 1983 (AD-A146212).

Lau, Alan W. and Laurie A. Broedling. The Nature of the Navy Civilian Executive Job: Behavior and Development. Naval Personnel Research and Development Center, San Diego CA, July 1979 (AD-A072373).

McCauley, Cynthia D. Executive Development in a Military Organization. Contract MDA90386M6610. Alexandria VA: Center for Creative Leadership, June 1988 (AD-A197253).

Mosemann, Lloyd K., II. "The Professional Logistician," Air Force Journal of Logistics, 12: 6-7 (Summer 1988).

Nancarrow, Donald W. An Investigation of the Essential Qualities, Characteristics, and Background Requirements for a Professional Senior Logistician. MS Thesis, AFIT/GLM/LSM/87S-49. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1987 (AD-A186980).

Olsen, Alan K., Associate Director, HQ USAF Director for Maintenance and Supply. Personal Interview. Wright-Patterson AFB OH, 2 February 1988.

Overbey, Capt Alan D. A Normative Model of the Essential Qualities, Characteristics, and Background Requirements of a Professional Senior Military Logistician. MS Thesis, AFIT/GLM/LSM/85S-61. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1985 (AD-A161442).

Russell, Linda. "A College Education," Air Force Journal of Logistics, 13: 32 (Winter 1989).

Wade, James P., Jr. "Defense Logistics: the Case for Reform," Defense Management Journal, 22: 3-6 (Fourth Quarter 1986)

Wilson, Dawn L. Who is the Senior Civilian Air Force Logistician?. MS Thesis, AFIT/GLM/LSM/85S-6[illegible] School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1985 (AD-A161735).

Zavada, Capt Adelle R. The Senior Military Logistician: An Empirical Study of United States Air Force Colonels. MS Thesis, AFIT/GLM/LSM/86S-92. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1986 (AD-A174142).

VITA

Captain David C. West was born on 2 July 19[illegible] at Webb Air Force Base in Big Springs, Texas. He graduated from Evergreen High School, Evergreen, Colorado in 1978. He attended the United States Air Force Academy, from which he received his commission and a Bachelor of Science degree in Chemistry on 2 June 1982.

He was a distinguished graduate of the Aircraft Maintenance Officer Course at Chanute AFB, IL in December 1982. He served as OIC of the 50th Equipment Maintenance Squadron (EMS) Aircraft Maintenance Branch, assistant OIC of the 50th Aircraft Generation Squadron (AGS) 405th Aircraft Maintenance Unit (AMU), and assistant maintenance supervisor of the 50th Component Repair Squadron (CRS) in the 50th Tactical Fighter Wing at Hahn AB, GE until May 1985. He served as assistant OIC of the 552d AGS 964 AMU, OIC of the 552d AGS 964 AMU, and maintenance supervisor at the [illegible] in the 552d AWACW at Tinker AFB, OK until May 1988. He then entered the Air Force Institute of Technology, School of Systems and Logistics, as a graduate student in Logistics Management.

Permanent Address: [illegible]

[illegible]

West Germany

REPORT DOCUMENTATION PAGE

Form Approved
OMB No 0704-0188

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS
2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release; distribution unlimited
2b DECLASSIFICATION / DOWNGRADING SCHEDULE	
4 PERFORMING ORGANIZATION REPORT NUMBER(S) AFIT/GLM/LSM/89S-70	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a NAME OF PERFORMING ORGANIZATION School of Systems and Logistics 6b OFFICE SYMBOL (If applicable) AFIT/LSM	7a NAME OF MONITORING ORGANIZATION
6c ADDRESS (City, State, and ZIP Code) Air Force Institute of Technology Wright-Patterson AFB OH 45433-6583	7b ADDRESS (City, State, and ZIP Code)
8a NAME OF FUNDING / SPONSORING ORGANIZATION 8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c ADDRESS (City, State, and ZIP Code)	10 SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO / WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
DEVELOPING THE MID LEVEL CIVILIAN LOGISTICIAN: AN EMPIRICAL STUDY OF UNITED STATES AIR FORCE GS-12 TO GM-13 PROFESSIONAL DEVELOPMENT

12 PERSONAL AUTHOR(S)
David C. West, B.S., Captain, USAF

13a TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
MS Thesis	FROM _____ TO _____	1989 September	149

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Personnel Management, Personnel Development, Careers, Civilian Personnel, Executives
05	09		

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

Thesis Advisor: David E. Lloyd, Lt Col, USAF (RET)
Assist Prof of Logistics Management

Approved for public release: IAW AFR 190-1.

Larry W. Emmelhainz

LARRY W. EMMELHAINZ, Lt Col, USAF 11 Oct 89
Director of Research and Consultation
Air Force Institute of Technology (AU)
Wright-Patterson AFB OH 45433-6583

20 DISTRIBUTION / AVAILABILITY OF ABSTRACT	21 ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	UNCLASSIFIED
22a NAME OF RESPONSIBLE INDIVIDUAL David E. Lloyd, Lt Col, USAF (RET)	22b TELEPHONE (Include Area Code) (513) 255-5023 22c OFFICE SYMBOL AFIT/LSM

DD Form 1473, JUN 86 Previous editions are obsolete.

Abstract

This study continues five years of AFIT research on the senior Air Force Logistician. The purpose of this research was to use the previously developed AFIT Civilian Model, a weighted model of the background, characteristics, and qualities of the ideal senior Air Force civilian logistician, in order to determine the developmental needs of the population of GS-12 to GM-13 logisticians. The study also surveyed and classified existing professional development programs for civilian logisticians, and evaluated the appropriateness of these programs in meeting developmental needs for GS-12 to GM-13 logisticians.

A written survey evaluated these mid-level civilian logisticians against the AFIT Civilian Model's 100 point scale. Structured telephone interviews provided information about the range and variety of existing professional development programs. The research used non-parametric statistics to evaluate program appropriateness by determining the correlation between developmental needs and corresponding programs.

In general, mid-level civilian logisticians did not fit the "ideal" AFIT Civilian Model very well, with scores ranging from 12.9 to 82.2 and a mean score of 49.3. These logisticians displayed weaknesses in six of the ten model categories. Individual professional development programs existed to facilitate development in all ten categories of the AFIT Civilian Model, but the overall program was not balanced to meet the weaknesses of the current mid-level logisticians.

This research should be potentially valuable to those interested in civilian logistician professional development. It provides ideas and analysis for professional development program managers and individual mid-level logisticians. The data and comments provide new insights into mid-level logistician development needs and programs.

END

FILMED

1-90

DTIC